Detailed Syllabus for
Bachelor of Science: Multimedia (Honors)/ (Research)

(Three/Four Years Full Time Undergraduate Degree Programme based on National Education Policy (NEP) 2020)
Effective from July 2021

Department of New Media Technology
MAKHANLAL CHATURVEDI NATIONAL UNIVERSITY OF JOURNALISM & COMMUNICATION, BHOPAL
B-38, Press Complex, Zone -1, M.P. Nagar, Bhopal (M.P.)-462011
Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal

Department of New Media Technology
Bachelor of Science: Multimedia (Honors)/ (Research)

NEP-based Full-Time Degree Program- with multi-entry and multi exit options. Certificate on completion of 1 year, Diploma in 2 years, Graduate Degree after 3 years, and after 4th year Honors Degree or Degree with Research.
Duration: (3 +1 year Seats- 40 Regular)
Eligibility: 12th (Passed 10+2 exams in any discipline from a recognized board)
- *1 year Certificate in Multimedia*
- *2 years Diploma in Multimedia*
- *3 years BSc Multimedia*
- *4 years BSc: Multimedia (Honors)*
  or
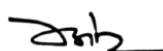 *4 years BSc: Multimedia (Research)*

About the Program:
Bachelor of Science: Multimedia (Honors)/ (Research) is based on "**National Education Policy (NEP) 2020**", which is set to bring drastic changes in the education system of the country. Flexible Degree options, Interdisciplinary Subject choices, unique exit options have been implemented as per the new education policy. This Six or Eight semester undergraduate program, introduces a solid foundation about multimedia and its various application areas. Multimedia will help to improve computer/mobile penetration and increased internet connectivity in various spheres of life. The various formats of technological or digital multimedia aims at enhancing the users' experience by conveying information easier and faster.

The Programme has compulsory core courses and elective core courses including Aesthetics and Technicality of Design, Foundational Components of Multimedia, Editing of Image, Audio and Video, 2D & 3D Animation, Visual Effects, Visualization of Data, Web Technology, Writing for New Media, E- Publishing and Entrepreneurship Management. Animation for Gaming, AI and Robotics, Augmented and Virtual Reality (AR/VR), Visual Effects (VFX), UI and UX, Big Data, Data Analytics for Journalism, Social Media Analytics, Cyber Security, Search Engine Optimization and Digital Marketing in addition to other courses. This program is highly recommended for students who are creative and desire state-of-the-art skills in multimedia content creation, or interested in pursuing Research in Multimedia.

Program Objectives (PO):
Bachelor of Science: Multimedia (Honors)/ (Research) option is designed with the following educational objectives

- To provide modular inputs related to Multimedia Content and Technologies
- To understand the essentials of Mass Communication, and the Visual Design and Technical aspects of Multimedia components in Communication
- To develop Digital Content Production skills, applicable for media and entertainment industry.
- To develop the technical skills and ethical sense, necessary for producing multimedia content.
- To develop research and analytical skills for internet based media content like Big Data
- To have understanding of interdisciplinary exposure through Generic Elective courses

Programme Educational Outcomes (PEO):

On successful completion of Bachelor of Science: Multimedia (Honors)/ (Research), Students shall be able to

- Understand and identify the requirements of various Multimedia elements for a given task.
- Demonstrate Skills in Designing, Editing and Publishing Digital Media Content.
- Develop competence in understanding the theoretical aspects and choose appropriate platform for implementing any given concept.
- Analytically explore the Social Media Content in different platforms.
- Demonstrate Skills to distinguish between work responsibility and accountability in Digital Media Platforms, as an Entrepreneur and an Individual.

Career opportunities you can choose after the programme

- Graphics Designer
- Photo Journalist
- Video Editor
- Animator
- Content Editor
- Social Media Manager
- Web Designer
- Graphics Artist
- Visual Content Creator and many more

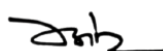**Programme Structure of Bachelor of Science: Multimedia (Honors)/ (Research)**

Semester	Discipline Specific Core (DSC) 5 Credits	Discipline Specific Elective (DSE) 5 Credits	Generic Elective (GE) 5 Credits	Ability Enhancement Courses (AEC) 2 Credits	Skill Enhancement Course (SEC) 2 Credits	Project/ Internship/ Dissertation (5) Thesis 10 Credits	Total Credits
First	Introduction to Communication Development of Media		Under this head in 3rd to 8th semesters, student has to choose from several subjects offered by different departments. See the subjects in table at the end of this scheme	Social and Emotional Learning Ethics & Culture Hindi Bhasha Evam Sahitya	Fundamentals of Computers		**18**
Second	Fundamentals of Multimedia Photography & Image Editing *using Photoshop*			Environmental Science and Sustainable Development English Language and Literature Co-Curricular- 1 (A) Parliament:	Digital Art and Graphic Design		**18**

			Practice and Procedure- I (B) Bhartiya Sangeet- I (C) Lalit Kala- I			
Award of Certificate in Multimedia (If Exiting After 1 Year)						**36**
Third	Audio Editing *using Audacity* Layout Design *using InDesign* 2D Animation *using Flash*		Script Writing & Storyboarding (GE1) OR (Choose from List)	Innovation and Entrepreneurship			**22**
Fourth	Video Editing *using Premiere & FCP* Web Design and E-Publishing Social Media		Animation for Gaming using Blender (GE2) OR (Choose from List)	Co-Curricular-2 (A) Parliament: Practice and Procedure- II (B) Bhartiya Sangeet- II (C) Lalit Kala- II			**22**
Award of Diploma in Multimedia (If Exiting After 2 Years)						**80**
Fifth	Search Engine Optimization and Digital Marketing Information Literacy, Cyber Laws and Ethics	3D Design using MAX OR 3D Design using MAYA	AI and Robotics (GE3) OR (Choose from List)				**20**
Sixth	Visual Effects (VFX) Project & Portfolio Management	Digital Film Making OR Basics of Research	Augmented and Virtual Reality (AR/VR) (GE4) OR (Choose from List)				**20**
Award of Bachelor of Science: Multimedia (If Exiting After 3 Years)						**120**
	For proceeding to fourth year Course there are two options. Option I- The first one is '4 Years Bachelor of Science: Multimedia (Honors)' only those candidates who have secured more than 60% in the 10+2 qualifying examination at the time of admission shall be eligible. Option II- For the second option '4 Years Bachelor of Science: Multimedia (Research)' In this option only those candidates who have secured minimum CGPA 7.5 in the three years of Bachelor of Science: Multimedia shall be eligible to continue.						
Option I	Option I - Bachelor of Science: Multimedia (Honors) Only those candidates who have secured minimum 60% in the 10+2 in qualifying examination (with allowed 5% relaxation to candidates from SC, ST, PH as per State Gov rules) at the time of admission shall be eligible.						
Seventh (Option I)	Multimedia Databases	UI/UX Design (OR) E- Publishing	Social Media Data Analytics			Internship /Project (5)	**20**

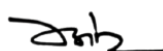|						
			(GE5) OR (Choose from List)			
Eighth (Option I)	Writing for New Media	IoT for Media (OR) Design and Business Management	Mobile Journalism (GE6) OR (Choose from List)			Dissertation/ Project (5)	**20**
	Award of Bachelor of Science: Multimedia (Honors) (4 Years)						**160**
OR							
Option II	Option II - Bachelor of Science: Multimedia (Research) Only those candidates who have secured minimum CGPA 7.5 in the three years of Bachelor of Science: Multimedia shall be eligible. Only those students who wish to pursue for PhD Research degree may continue this option II for 4th year.						
Seventh (Option II)	Research Methodology	Data Science using Python (OR) Online Research Methods	Social Media Data Analytics (GE5) OR (Choose from List)			Project (5)	**20**
Eighth (Option II)		Data Analytics and Visualization (OR) Big Data and Social Media	Mobile Journalism (GE6) OR (Choose from List)			Thesis (10)	**20**
	Award of Bachelor of Science: Multimedia (Research) (4 Years)						**160**

Abbreviations Followed

Abbreviation	Full Name
L	Lecture
T	Tutorial
P	Practical
C	Discipline Specific Core (DSC)
E	Discipline Specific Elective (DSE)
R	Stream Elective (SE)
G	Generic Elective (GE)
S	Skill Enhancement Course (SEC)
A	Ability Enhancement Courses (AEC)
AD	All Departments Common Courses
Code for Department offering the courses	
ADA	All Departments
CS	Department of Commuter Science and Applications (CS)
NM	Department of New Media Technology (NM)
EM	Department of Electronic Media (EM)
PR	Department of Advertising & Public Relation (PR)
MC	Department of Mass Communication (MC)
JR	Department of Journalism (JR)
BM	Department of Media Business Management (BM)
NC	National Cadet Corps (NCC)
NS	National Service Scheme (NSS)

Note:

1. During the first and second semesters NCC & NSS are conducted and also examined but their evaluation is included from third semester onwards as Generic Electives. Please note that NCC and NSS chosen in first semester shall remain same during full course.

2. As per the national education policy the generic elective courses are offered from 3rd semester onwards, with wider choice of subjects indicated in each semester tables. In addition to these courses the university shall indicate permitted online courses like SWAYAM or MOOC as additional options for inclusion of credit in the respective semester. Some of them may need with additional fee like examination fee that would have to be borne by the concerned students.

3. The present course is based on NEP guidelines from UGC which is still in the process of up-gradation as it is being done for the first time. The proposed syllabus and course structure may undergo major changes and the University shall be fully authorized for the same.

4. As on date the university is not registered in the UGC portal for academic bank off credits hence the results shall be declared on the university website only

Semester –I

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC01	Introduction to Communication	4/4	1/1	-	5/5	80	20	-	100
NMC02	Development of Media	5/5	-	-	5/5	80	20	-	100
ADA01	Social and Emotional Learning	1/1	1/1	-	2/2	30	10	-	40
ADA02	Ethics & Culture	1/1	1/1	-	2/2	30	10	-	40
ADA03	Hindi Bhasha Evam Sahitya	1/1	1/1	-	2/2	30	10	-	40
NMS01	Fundamentals of Computers	-	1/1	1/2	2/3	-	10	30	40
Semester Totals		12/12	5/5	1/2	18/19	250	80	30	360

Semester –II

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC03	Fundamentals of Multimedia	5/5	-	-	5/5	80	20	-	100
NMC04	Photography & Image Editing *using Photoshop*	3/3	-	2/4	5/7	60	20	20	100
ADA04	Environmental Science and Sustainable Development	1/1	1/1	-	2/2	30	10	-	40
ADA05	English Language and Literature	1/1	1/1	-	2/2	30	10	-	40
ADA06 (A) OR ADA06 (B) OR ADA06 (C)	Co-Curricular- 1 Parliament: Practice and Procedure- I Bhartiya Sangeet- I Lalit Kala- I	- - -	1/1 1/1 1/1	1/2 1/2 1/2	2/3 2/3 2/3	- - -	10 10 10	30 30 30	40 40 40
NMS02	Digital Art and Graphic Design	-	1/1	1/2	2/3	-	10	30	40
Semester Totals		10/10	4/4	4/8	18/22	200	80	80	360

Semester –III

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC05	Audio Editing *using Audacity*	3/3	-	2/4	5/7	60	20	20	100
NMC06	Layout Design *using InDesign*	3/3	-	2/4	5/7	60	20	20	100
NMC07	2D Animation *using Flash*	3/3	-	2/4	5/7	60	20	20	100
*NMG01	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
ADA07	Innovation and Entrepreneurship	1/1	1/1	-	2/2	30	10	-	40
Semester Totals		13/13	1/1	8/16	22/30	270	90	80	440

GE - 1

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG01	DTP with PageMaker & Photoshop	3/3	0	2/4	5/7	60	20	20	100
NMG01	Script Writing &Storyboarding	3/3	0	2/4	5/7	60	20	20	100
EMG01	Media Organizations	5/5	0	0	5/5	80	20	0	100
PRG01	Social Media Marketing	2	1	2	5	50	20	30	100
MCG01	Photo Journalism	4/4	0	1/2	5/6	60	20	20	100
JRG01	Entertainment Art & Cultural Journalism	3/3	1/1	1/2	5/6	60	20	20	100
NCG01	Leadership	1/2	2/2	1/2	4/5	40	20	20	80
NSG01	NSS-3	Will be notified separately.							

Semester –IV

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC08	Video Editing *using Premiere & FCP*	3/3	-	2/4	5/7	60	20	20	100
NMC09	Web Design and E-Publishing	3/3	-	2/4	5/7	60	20	20	100
NMC10	Social Media	5/5	-	-	5/5	80	20	-	100
*NMG02	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
ADA08 (A) OR ADA08 (B) OR ADA08 (C)	Co-Curricular- 2 Parliament: Practice and Procedure- II	-	1/1	1/2	2/3	-	10	30	40
	Bhartiya Sangeet- II	-	1/1	1/2	2/3	-	10	30	40
	Lalit Kala- II	-	1/1	1/2	2/3	-	10	30	40
Semester Totals		**14/14**	**1/1**	**7/14**	**22/29**	**260**	**90**	**90**	**440**

GE - 2

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG02	Multimedia With Corel Draw, Premier & Sound Forge/ Audacity	3/3	0	2/4	5/7	60	20	20	100
NMG02	Animation for Gaming using Blender	3/3	0	2/4	5/7	60	20	20	100
EMG02	Media Language & Content	5/5	0	0	5/5	80	20	0	100
PRG02	Search Engine Optimization & Search Engine Marketing	1	1	3	5	50	20	30	100
MCG02	Communication Skills	4/4	0	1/2	5/6	60	20	20	100
JRG02	Writing for Sports	3/3	1/1	1/2	5/6	60	20	20	100
NCG02	Armed Forces	2/2	2/2	1/2	5/6	40	20	20	80
NSG02	NSS-4	Will be notified separately.							

Semester –V

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC11	Search Engine Optimization and Digital Marketing	3/3	-	2/4	5/7	60	20	20	100
NMC12	Information Literacy, Cyber Laws and Ethics	5/5	-	0	5/5	80	20	-	100
NME-1(A)	3D Design *using MAX* OR	3/3	-	2/4	5/7	60	20	20	100
NME-1(B)	3D Design *using MAYA*	3/3	-	2/4	5/7	60	20	20	100
*NMG03	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
Semester Totals		**16/16**	**-**	**4/8**	**20/24**	**280**	**80**	**40**	**400**

GE - 3

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG03	Accounting with Tally	3/3	0	2/4	5/7	60	20	20	100
NMG03	AI and Robotics	5/5	0	0	5/5	80	20	0	100
EMG03	Development Communication	5/5	0	0	5/5	80	20	0	100
PRG03	Creative Communication	2	1	2	5	50	20	30	100
MCG03	Creative Writing	4/4	0	1/2	5/6	60	20	20	100
JRG03	Writing on Social Issues	3/3	1/1	1/2	5/6	60	20	20	100
NCG03	Infantry Weapons	1/1	2/2	1/2	4/5	40	20	20	80
NSG03	NSS-5	Will be notified separately.							

Semester –VI

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC13	Visual Effects (VFX)	3/3	-	2/4	5/7	60	20	20	100
NMC14	Project & Portfolio Management	-	1/1	4/8	5/9	-	20	80	100
NME-2(A)	Digital Film Making OR	3/3	-	2/4	5/7	60	20	20	100
NME-2(B)	Basics of Research	5/5	-	-	5/5	80	20	-	100
*NMG04	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
Semester Totals		9/9 or 11/11	1/1	10/20 or 8/16	20/30 or 20/28	180 or 200	80	140 or 120	400

GE - 4

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG04	Social Media Marketing	3/3	0	2/4	5/7	60	20	20	100
NMG04	Augmented and Virtual Reality (AR/VR)	3/3	0	2/4	5/7	60	20	20	100
EMG04	Community Radio	5/5	0	0	5/5	80	20	00	100
PRG04	Event & Experiential Marketing	2	2	1	5	50	20	30	100
MCG04	Art of Anchoring	4/4	0	1/2	5	60	20	20	100
JRG04	Feature Writing	3/3	1/1	1/2	5/6	60	20	20	100
NCG04	Border & Coastal Areas	2/2	2/2	1/2	5/6	40	20	20	80
NSG04	NSS-6	Will be notified separately.							

Option I - Bachelor of Science: Multimedia (Honors)
Only those candidates who have secured minimum CGPA 7.5 in the three years of Bachelor of Science: Multimedia shall be eligible.

Semester –VII (Option I)

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC15	Multimedia Databases	3/3	-	2/4	5/7	60	20	20	100
NME03 (A)	UI/UX Design OR	3/3	-	2/4	5/7	60	20	20	100
NME03 (B)	E- Publishing	3/3	-	2/4	5/7	60	20	20	100
*NMG05	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
NMC16	Internship /Project	-	1/1	4/8	5/9	-	20	80	100
Semester Totals		9/9	1/1	10/20	20/30	180	80	140	400

GE - 5

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG05	Big Data	4/4	0	1/2	5/6	60	20	20	100
NMG05	Social Media Data Analytics	3/3	0	2/4	5/7	60	20	20	100
EMG05	Formative Research	5/5	0	0	5/5	80	20	0	100
PRG05	Digital PR	1	2	2	5	50	20	30	100
MCG05	Media and Gender Studies	4/4	0	1/2	5	60	20	20	100
JRG05	Crime and Court Reporting	3/3	1/1	1/2	5/6	60	20	20	100

Semester –VIII (Option I)

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC17	Writing for New Media	3/3	-	2/4	5/7	60	20	20	100
NME04 (A)	IoT for Media	3/3	-	2/4	5/7	60	20	20	100
	OR								
NME04 (B)	Design and Business Management	5/5	-	0	5/5	80	20	-	100
*NMG06	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
NMC18	Dissertation/ Project	-	1/1	4/8	5/9	-	20	80	100
Semester Totals		9/9 or 11/11	1/1	10/20 or 8/16	20/30 or 20/28	180 or 200	80	140 or 120	400

GE - 6

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG06	Analysis of Algorithm	4/4	0	1/2	5/6	60	20	20	100
NMG06	Mobile Journalism	3/3	0	2/4	5/7	60	20	20	100
EMG06	Academic Writing	3/3	0	2/4	5/7	60	20	20	100
PRG06	Web Advertising	1	2	2	5	50	20	30	100
MCG06	Media Business Management	4/4	1/1	0	5	80	20	0	100
JRG06	Parliamentary Reporting	3/3	1/1	1/2	5/6	60	20	20	100

Option II - Bachelor of Science: Multimedia (Research)

Only those candidates who have secured minimum CGPA 7.5 in the three years of Bachelor of Science: Multimedia shall be eligible. Only those students who wish to pursue for PhD Research degree may continue this option II for 4th year.

Semester –VII (Option II)

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NMC19	Research Methodology	5/5	-	-	5/5	80	20	-	100
NME05 (A)	Data Science using Python OR	3/3	-	2/4	5/7	60	20	20	100
NME05 (B)	Online Research Methods	5/5	-	-	5/5	80	20	-	100
*NMG05	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
NMC20	Project	-	1/1	4/8	5/9	-	20	80	100
Semester Totals		**11/ 11 or 13/ 13**	**1/1**	**8/1 6 or 6/1 2**	**20/28 or 20/26**	**200 or 220**	**80**	**120 or 100**	**400**

GE - 5

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG05	Big Data	4/4	0	1/2	5/6	60	20	20	100
NMG05	Social Media Data Analytics	3/3	0	2/4	5/7	60	20	20	100
EMG05	Formative Research	5/5	0	0	5/5	80	20	0	100
PRG05	Digital PR	1	2	2	5	50	20	30	100
MCG05	Media and Gender Studies	4/4	0	1/2	5	60	20	20	100
JRG05	Crime and Court Reporting	3/3	1/1	1/2	5/6	60	20	20	100

Semester –VIII (Option II)

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
NME06 (A)	Data Analytics and Visualization	3/3	-	2/4	5/7	60	20	20	100
NME06 (B)	OR Big Data and Social Media	3/3	-	2/4	5/7	60	20	20	100
*NMG06	Generic Elective :Refer Table Below and Choose any One Subject (5 Credits)								100
NMC21	Thesis	-	2/2	8/16	10/18	-	40	160	200
Semester Totals		**6/6**	**2/2**	**12/24**	**20/32**	**120**	**80**	**200**	**400**

GE - 6

Course Code	Course Name	L	T	P	Load	Theory Marks	Internal Marks	Practical Marks	Total Marks
		Credits/Hours							
CSG06	Analysis of Algorithm	4/4	0	1/2	5/6	60	20	20	100
NMG06	Mobile Journalism	3/3	0	2/4	5/7	60	20	20	100
EMG06	Academic Writing	3/3	0	2/4	5/7	60	20	20	100
PRG06	Web Advertising	1	2	2	5	50	20	30	100
MCG06	Media Business Management	4/4	1/1	0	5	80	20	0	100
JRG06	Parliamentary Reporting	3/3	1/1	1/2	5/6	60	20	20	100

B.Sc. (MM) Programme Education Outcome(PEOs)/Programme Graduate Aptitude (PO)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
PE01	3	3	3	3	3	2	2	2	3	3	2	2	1	1	2
PE02	3	3	3	3	3	2	2	3	3	3	3	2	2	3	3
PE03	3	3	3	3	3	2	2	3	3	3	2	2	3	2	3
PE04	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
PE05	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Programme Graduate Aptitude (PO):

PO1 Disciplinary Knowledge   PO2- Communication Skills   PO3 Critical Thinking
PO4 Problem Solving   PO5 Analytical Reasoning   PO6 Research Related Skills
PO7 Cooperation/Team Work   PO8 Scientific Reasoning   PO9 Reflective Thinking
PO10 Information /Digital Literacy PO11 Self-Directed Learning   PO12 Multicultural Competence PO13
Moral and Ethical   PO14 Leadership Readiness   PO15 Lifelong Learning
                             /Qualities

Mapping Value: 3-Strong 2- Moderate 1-Weak

PO1: Disciplinary Knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study.

PO2: Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

PO3: Critical Thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO4: Problem Solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

PO5: Analytical Reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyse and synthesise data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

PO6: Research-Related Skills: A sense of inquiry and capability for asking relevant/appropriate questions, problematising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

PO7: Cooperation/Team Work: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

PO8: Scientific Reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences LOCF 4 from an open-minded and reasoned perspective.

PO9: Reflective Thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO10: Information/Digital Literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

PO11: Self-Directed Learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO12: Multicultural Competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PO13: Moral and Ethical Awareness/Reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behavior such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO14: Leadership Readiness/Qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

PO15: Lifelong Learning: Ability to acquire knowledge and skills, including "learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.

Completion of First Year   :   Certificate in Multimedia (36 Credits)

Semester I

Bachelor's (Honours/Research) I SEM	Marks:100		Credits:5		
(NMC01) INTRODUCTION TO COMMUNICATION	Th	Pr	Ia	Contact hrs.	
				L	T	P
	80	-	20	4	1	-

Course Objectives

1. To understand the concept of communication practice and relevance.
2. To develop critical understanding about communication process.
3. To introduce students to Models and Theories of Communication.
4. To develop an insight on the scenario of media technology, audience and content.
5. To impart knowledge about Indian Perspective of Communication.

Learning Outcomes

- Student will be capable to analyze and evaluate the process of Communication and Mass Communication.
- Capable to plan and execute effective Communication Strategies.
- Ability to identify and apply Communication Models and Theories.
- Able to develop and demonstrate critical thinking about communicated content.
- Students will be able to acquire and apply the knowledge about issues related to communication in current scenario.

Unit-1	BASICS OFCOMMUNICATION (=P+T+L -Total hours15hrs)	L	T	P
1.1	Essentiality of Communication in Society ,Lectures) Classr oomD(iscussion	2	-	-
1.2	Communication :Concept, Definition, Scope, Process and Elements ,Lectures) Classr oomD(iscussion	3	-	-
1.3	Functions of Communication and Mass Communication , Characteristics of Mass and Mass Society ,Lectures) Classr oomD(iscussion	3	-	-
1.4	Types of Communication: Intra- Personal, Inter-Personal, Group and Mass Communication ,Lectures) Classr oomD(iscussion	5	-	-
1.5	Barriers of communication ,Lectures) Classr oomD(iscussion	2	-	-

Unit-2	MEDIA AND AUDIENCE (Total hours- L+T+P= 15 hrs)	L	T	P
2.1	Traditional Media: Folk Lore, Art, Song, Dance and other Traditional forms. Traditional Culture and Popular Culture (Lecture, Class Room Discussion Group Activity)	2	1	-
2.2	Mass Media-Characteristics, Strengths and Limitations Print: Newspaper and Magazine, Electronic: Radio, Television and Cinema (Lecture, Class Room Discussion Group Activity)	2	-	-
2.3	New Media: Social Media platforms, Applications and Digital Media. Global Communication and Media: Concept and Issues (Lecture, Class Room Discussion Group Activity)	3	1	-
2.4	Audience in Communication, Classification: Age, Gender, Education, Occupation, Socio Cultural Background (Lecture, Class Room Discussion Group Activity)	2	1	-
2.5	Audience Characteristics: Audiences Public, as Market, Media Effects and Audience, Media Content and Audience (Lecture, Class Room Discussion Group Activity)	2	1	-

Unit-3	COMMUNICATION MODELS (Total hours- L+T+P= 15 hrs)	L	T	P
3.1	Aristotle's Model, Harold D Lasswell's Model, Berlo's SMCR Model (Lecture, Class Room Discussion)	3	1	-
3.2	Charles E Osgood Model, Wilbur Schramm Model (Lecture, Class Room Discussion)	2	-	-
3.3	Shannon and Weaver's Model (Lecture, Class Room Discussion)	3	-	-
3.4	Newcomb's Model, Westley and MacLean's Model (Lecture, Class Room Discussion)	3	-	-
3.5	George Gerbner's Model (Lecture, Class Room Discussion)	2	1	-

Unit-4	COMMUNICATION THEORIES (=P+T+L -Total hours15hrs)	L	T	P
4.1	Indian Perspective of Communication, Concept of Sadharanikaran (Lecture, Analysis of Theories)	2	1	-
4.2	One-Step/Hypodermic Needle Theory , Two-Step Theory, Multi-Step Theory,Agenda Setting Theory (Lecture, Analysis of Theories)	2	-	-
4.3	Normative Theories of Media-I : Authoritarian theory , Libertarian Theory, Social Responsibility theory (Lecture, Analysis of Theories)	3	1	-
4.4	Normative Theories of Media-II :Soviet Media Theory, Democratic Participant Theory, Development Media Theory (Lecture, Analysis of Theories)	3	1	-
4.5	Marshal McLuhan's Approach: Medium is the Message, Concept of Global Village and role of Media (Lecture, Classroom Discussion)	2	-	-

Unit-5	NEWINFORMATIONTECHONOLOGY AND COMMUNICATION (=P+T+L -Total hours15hrs)	L	T	P
5.1	Role of Information Technology in Communication, ICT in Rural Development and Good Governance (Lecture, Classroom Discussion)	2	1	-
5.2	Convergence Technology, Media convergence, Digital Divide (Lecture, Classroom Discussion)	2	1	-
5.3	Media Imperialism and Cultural Imperialism (Lecture, Classroom Discussion)	2	1	-
5.4	Public Opinion, Public Sphere, Propaganda (Lecture, Classroom Discussion)	2	1	-
5.5	Future of Communication with Changing Information Technology (Lecture, Classroom Discussion)	2	1	-

Practical/Project/Assignments:
- Identifying symbols in non-verbal communication and prepare a hand-written report
- Write an essay/article on Communication and society (800-1000 words).
- Write an essay/article/featureor write a report on any one Traditional/Folk form of communication (800-1000 words).
- PPT Presentation on the strengths and limitations of different mass media.
- Any assignment given by the concerned faculty.

Suggested Readings:
- Keval J. Kumar (1994) Mass Communication In India. Jaico Publishing House, Mumbai, India. (New Ed.)
- Larry L. Barker (1978) Communication Prentice-Hall, USA.
- James Lull (2000) Media, Communication, Culture. Blackwell Publishers, UK.
- Kamlesh Mahajan (1990) Communication and Society-The Emerging Human Concerns. Classical Publishing Company ,Delhi, India.
- Denis Mcquail (2010). Macquail's Mass Communication Theory. Thousand Oaks, United States: Sage.
- James W. Tankard Jr. and Werner J Severin (2003) Communication Theories: Origin, Methods, Uses in the Mass Media. New York: Longman.
- Wilbur Schramm (1973). Men, Message, and Media. New York, Harper and Row.
- JessamyPerriam and Simon Carter (2021) Understanding Digital Societies. Sage Publishing.
- Uma Narula, Mass Communication: Theory and Practice. HAR-ANAND Publications.
- केवल जे. कुमार : भारत में संचार, जयको पब्लिशिंग हाउस, मुंबई।
- डॉ. गोविन्द प्रसाद एवं पाण्डेय अनुपम : समाचार एवं जनसंचार, डिस्कवरी प्रकाशन हाउस, प्रा. लि. नई दिल्ली।
- नन्द भारद्वाज : संस्कृति, जनसंचार और बाजार, सामयिक प्रकाशन, नई दिल्ली।
- डॉ. श्रीकांत सिंह : सम्प्रेषण, प्रतिरूप एवं सिद्धांत, भारती प्रकाशक एवं वितरक, फैजाबाद, उत्तरप्रदेश।

(NMC02) Development of Media

Theory	80	Practical	-	Internal	20	Credits	5

Course Objectives:

1. To help students develop skill in primary resources about Indian Media.
2. To provide students with knowledge of' rich and diverse history of Indian press, television and radio.
3. To make students able to recognize the great contribution of press in the freedom movement.
4. To provide students with knowledge of' Doordarshan as public broadcaster.
5. To make students able to recognize cinema is medium of communication.

Learning Outcomes:

1. Students will able to explain birth and growth of Indian Press.
2. They will get thorough understanding or contribution of Indian press in the freedom struggle and able to share it.
3. Students will be able to understand Indian News Agencies.
4. Student will be able to understand objectives of Doordarshan.
5. Student will be able to understand characteristics of Film and Social Media

Unit1	Early History of Press In India 1780-1915	L	T	P
1.1	Origin of Indian press in colonial period, newspaper, characteristics and their effect in the society	2	1	0
1.2	Hickey's Bengal Gazette	2	1	0
1.3	Brief history of prominent newspapers: The Hindu, Hindustan Times, Times of India, Amrit Bazar Patrika	2	1	0
1.4	Brief introduction and contribution of eminent journalist Raja Ram Mohan Roy, Jugal Kishore Shukla, Bhartendu Harish Chandra	2	1	0
1.5	Contribution of Indian media in social awakening (renaissance) social reforms	2	1	0

Unit2	**Press and Freedom Movement**	L	T	P
2.1	Role of press in freedom movement	2	1	0
2.2	Contribution of eminent journalist Lokmanya Bal Gangadhar Tilak, Mahatma Gandhi, Baburao Vishnu paradkar, Ganesh Shankar Vidyarthi, Makhanlal Chaturvedi, Madhav Rao Sapre,	2	1	0
2.3	Introduction to Press council and Press Commission	2	1	0
2.4	Brief History of language press -Urdu, Bangla, Malayalam, Tamil, Marathi	2	1	0
2.5	Eminent journalist of post-independence period Prabhas Joshi, Rajendra Mathur, Dharmveer Bharti, Rahul Barpute Press During Emergency Present scenario of Indian Press	2	1	0

Unit 3	**Introduction to News Agencies and Radio**	L	T	P
3.1	Brief history of AIR- Pre Independence Period, Post -Independence Period	2	1	0
3.2	Commission and Committees- Joshi Committee, Varghese Committee & Chanda Committee	2	1	0
3.3	FM Broadcasting, Local Broadcasting, Interactive Radio Satellite Broadcast (Sky Radio)	2	1	0
3.4	Organization of AIR - News service division, external service division, Public Service and Commercial Radio, familiarization with studio and equipment	2	1	0
3.5	Introduction to News Agencies-PTI, UNI, Hindustan Samachar, Samachar Bharti,ANI	2	1	0

Unit 4	Introduction to Doordarshan	L	T	P
4.1	Objectives of Doordarshan Role of DD in National Development (SITE project and Educational TV)	2	1	0
4.2	Growth and development of Doordarshan in India Three tier service system of DD- National, Regional and Local, Commercial Service and Special Audience Program	2	1	0
4.3	Characteristics of television as a medium of Communication	2	1	0
4.4	Difference and comparison of television with other media	2	1	0
4.5	Prasar Bharti Nigam – Objective, Structure and Function	2	1	0

Unit 5	Introduction to Film and Social Media	L	T	P
5.1	Cinema-Definition and scope, Introduction to Indian Cinema,	2	1	0
5.2	Types of Indian Cinema- Popular& Parallel, Importance of Cinema in Indian Society.	2	1	0
5.3	Cinema as a medium of communication	2	1	0
5.4	Introduction to Social Media, Types of Social Media, Indian Social Media Platforms.	2	1	0
5.5	Social Media as an effective medium of communication. Importance of Social Media Contemporary Society	2	1	0

Assignments:
- Prepare a Assignment on Historical topic of media
- Visit any media house and prepare a report
- Write an essay on contribution and relevance of any one freedom fighter journalist
- Prepare chart/poster on timeline of origin and growth of Indian Press/television and Radio Broadcast media
- Prepare an Assignment on History of Film in India
- Prepare an Assignment on Origin and Growth of Social Media

Suggestive Readings:
- Natrajan J, The Publication Division, History of Indian Journalism
- Gupta V S & Veer Bala Agrawal, Concept Publishing Company, New Delhi, Hand Book of Journalism & Mass Communication
- Fang E. Erving, Focal Press, History of Mass Communication: Six Information Revolutions
- Keavl J Kumar,Jaico Publication, New Delhi, Mass Communication and India
- Villanilam J V, NBT, New Delhi, Growth and Development of Mass Communication India
- अम्बिका प्रसाद बाजपेयी, ज्ञान मण्डल लिमिटेड, सन्त कबीर मार्ग, समाचार पत्रों का इतिहास
- कृष्ण बिहारी मिश्र, हिन्दी पत्रकारिता का इतिहास
- डॉ श्रीकांत सिंह, टेलीविजन पत्रकारिता

ADA01: SOCIAL AND EMOTIONAL LEARNING

L	T	P	Load	Theory Paper	Internal Evaluation	Practical Exams	Total Marks
			Credits/Hours				
1/1	1/1	0/0	2/2	30	10	0	40

Course Objectives

The following are the objectives of the course:
- To understand the concept of emotional and social intelligence and learn ways of developing them.
- To understand and establish the role of emotional learning in life and existence of self and its dependency with Nature.
- To introduce the basic concepts of the learning such as self and social awareness
- To inculcate the skills among the students to learn from emotions and practice self-management
- To inculcate the relationship skills among students for taking responsive decisions.
- To aware about unsupervised learning, misinformation and social learning.
- To develop the socio-emotional approach of learning among students.

Learning Outcomes:

After completion of this course, the students will be able to do:
1. Contemplate and apply the knowledge and skills for social emotional development.
2. Create and practice the supportive environments.
3. Demonstrate, establish and evolve the social-emotional harmony in their personal and professional life and growth.
4. Explore and exploit different routes, channel of learning.
5. To develop the abilities in students to understand their emotions and its interrelationship with the Socio –Economic contexts

Unit-wise Syllabus

UNIT-I:	LEARNING CONCEPTS	L	T	P
1.1	Meaning, Definition and Basic concepts of Learning, Significance, Importance and Relevance of Learning in present scenario, Learning by Digital platforms	2	-	-
1.2	Learning in Indian context: Indian views on learning, Teachings of Epics (*Ramayna*, *Bhagvatgita etc.)*	1	-	-
1.3	Philosophers (*Aurobindo*, J. *Krishnamurthy*, *Mahirshi Raman* and *NisargdattaMaharaj)*	2	1	

UNIT II:	EMOTIONAL AND SOCIAL AWARENESS	L	T	P
2.1	Importance and Models of Emotional Intelligence	1	-	-
2.2	EQ competencies: self-awareness, Levels of emotional awareness; Recognizing Emotions in oneself; self-regulation	2	-	-
2.3	Perceiving emotions accurately in others, Social awareness and empathy, and interpersonal skills	2	-	-
2.4	Strategies to develop emotional and social awareness, Social Co-Regulation	1	-	-

UNIT III:	MANAGING EMOTIONS	L	T	P
3.1	Harmony of the Self with Society, Understanding Myself as Co-existence of the Self and the Society, Understanding Needs of the Self and the Needs of the Society	2	1	-
3.2	Cultural Considerations in SEL, The relationship between emotions, thought and behavior	2	-	-
3.3	Techniques to manage emotions and social conflict	1	-	-

UNIT IV:	RELATIONSHIP MANAGEMENT	L	T	P
4.1	Define social skills and explore its various competencies	1	-	-
4.2	Implement strategies to help build relationships and connections at work, recognize the difference between facts from emotions	2	1	-
4.3	Apply listening strategies to become a better listener and ultimately a better communicator	1	1	-

UNIT V:	SOCIAL IMOTIONAL LEARNING AND Its APPLICATIONS	L	T	P
5.1	Emotional Intelligence in Indian Context. Applications in the context of Mass Media /Mass Communication	2	-	-
5.2	Social Intelligence in Indian Context. Applications in the context of Mass Media/Mass Communication	2	-	-
5.3	Cultural Consideration in Social Emotional Learning	1	-	-
5.4	Responsible Decision Making and Team Work	1	-	-

Assignments:
- Prepare chart / poster on human learning.
- Make a poster presentation on different social and emotional experiences.
- Self-critical awareness about ones abilities and assets in different contexts of life and limitations in terms of knowledge, attitudes, skills and values which may be revised or developed.
- Activities that develop cognitive skills-independent thinking to promote critical thinking and creative thinking; decision making and problem solving with all their components.
- Visits to the slums and natural calamities and stories of different children to tap empathy which is inherent.
- Group discussion on the current issues to develop psycho-social skills like interpersonal relationship skills and effective communication skills.
- Introducing yoga exercises to be done with ease and meditation which starts with self-knowledge with let come and let go spirit to experience spells of silence for healthy body and mind and to awaken the hidden faculties.
- Exercises to have inner observation for self-knowing while in stress or in emotions and to develop skills of self-management.
- Use of brain storming, value clarification and group discussion techniques to arrive at the realities free of habitual modes of thoughts, attitudes and action tendencies.
- Encouraging Nature observation, inner observation, nature walks, and reading biographies of great people who contributed their might out of self-abnegation but not with self-centeredness and sharing personal experiences.

Suggestive Readings:

- A.N.Tripaty (2003). Human Values, New Age International Publishers.
- Adams, S. R., & Richie, C. (2017). Social emotional learning and English language learning: A review of the literature.
- Bar-On, R., & Parker, J.D.A.(Eds.) (2000). The handbook of emotional intelligence. San Francisco, California: Jossey Bros.
- Goleman, D. (1995). Emotional Intelligence. New York: Bantam Book.
- Goleman, D. (1998). Working with Emotional Intelligence. New York: Bantam Books.
- Singh, D. (2003). Emotional intelligence at work (2nd ed.) New Delhi: Response Books.
- Bajpai.B.L. (2004). Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted.
- Baron and Byrne. Social Psychology.
- Bertrand Russell. Human Society in Ethics and Politics
- C.T. Morgan, R.A. King, J. R. Weisz, JSchopler (2011). Introduction to Psychology.
- Corliss Lamont: Philosophy of Humanism.
- *Daniel Goleman (1995). Emotional Intelligence. Bantam Books.*
- *Daniel Goleman (2017). Emotional Intelligence and Social Intelligence: The New Science of Human Relationships.*
- Plutchik, R. (2001). The nature of Emotions.
- VanAusdal, K. (2019). Collaborative classrooms support social-emotional learning.

- **अरूण कुमार सिंह, समाज मनोविज्ञान की रूपरेखा, मोतीलाल बनारसीदास।**
- एम.पी. पंडित, (2000) श्री अरविन्द, आधुनिक भारत के निर्माता, प्रकाषिन विभाग, सूचना और प्रसारण मंत्रालक,भारत सरकार।
- श्री पूरन चंद्र जोषी (2009) परिवर्तन और विकास के सांस्कृतिक आयाम, राजकमल प्रकाषन।
- श्री घ्यामाचरण दुबे (2016) मानव और संस्कृति, राजकमल प्रकाषन।
- श्री अखिलानन्द, हिन्दु साइकोलॉजी।

ADA02: ETHICS AND CULTURE

Total Marks 40

Total Marks	40	Theory	30	Practical	00	Internal	10	Credits	2

COURSE OBJECTIVES

1. To introduce students to basic Human Ethics.
2. To highlight the role of Ethics in Life.
3. To improve emotional and Spiritual Quotient of students.
4. To make students aware of Culture.
5. To improve Cultural Quotient of students.

LEARNING OUTCOME:

1. Students will able to contemplate and apply Morality in their life.
2. They will get thorough understanding of Values and Ethics.
3. Students will have ethical knowledge about personal and professional growth.
4. They will understand different forms of Culture.
5. Understand the triangulation of Society, Media and Culture.

UNIT-I	Harmony in the Human Being	L	T	P
1.1	Human being: Concept and Meaning	1	-	-
1.2	Human Being is more than just the Body	1	-	-
1.3	Harmony of the Self (I) with the Body	1	1	-
1.4	Understanding Myself as Co-existence of the Self and the Body	1	-	-
1.5	Understanding Needs of the Self and the Needs of the Body	1	-	-
UNIT-II	**Social Ethics**	L	T	P
2.1	The Basics for Ethical Human conduct	1	-	-
2.2	Defects in Ethical Human Conduct	1	-	-
2.3	Holistic Alternative and Universal order	1	-	-
2.4	Universal Human Order and Ethical Conduct	1	1	-
2.5	Social Ethics: A way to success	1	-	-
UNIT-III	**Professional Ethics**	L	T	P
3.1	Value Based Life and Profession	1	-	-
3.2	Professional Ethics and Right Understanding	1	-	-
3.3	Technology and Ethics	1	-	-

3.4	The nexus of Environment and Ethics	1	-	-
3.5	Issues in Professional Ethics – The Current scenario	1	-	-
UNIT-IV	**Study of Culture**	**L**	**T**	**P**
4.1	The Idea of Culture, Perspectives of Indian Culture and Value System: *Dharma, Karma, Vasudhaiv Kutumbkam, Sarve bhavantu sukhinh, Shashwat dharma*	2	-	-
4.2	Indic philosophy in values and culture, *Deh; mann; buddhi; atman,* Happiness and Success	1	-	-
4.3	Hindu-Buddhist ethics, Integral Humanism (*Pt. Deen Dayal Upadhyay*), *Hind Swaraj,*	2	-	-
4.4	Culture and Civilization: Differences and Differences, Meaning and form of Culture and Civilization	1	-	-
4.5	Similarities and differences between Indic and Western culture, Culture and Society in Contemporary India	2	-	-
UNIT-V	**Culture and Media**	**L**	**T**	**P**
5.1	Indian culture from the lens of Newspapers and Magazines	1	-	-
5.2	Radio, Television, Advertising and Cinema as representatives of Indic culture	1	-	-
5.3	Social Media and Cultural implications	1	-	-
5.4	Digital Media in present scenario, Theory of Culture	1	-	-
5.5	Globalization in context of Indian Culture	1	-	-

ASSIGNMENTS:

1. Make a poster presentation on different Indian cultural anecdotes.
2. Prepare case study on Mahabharata and contemporary relevance, Bhopal Gas tragedy, Chernobyl tragedy, Satyam Case, Celebrities and drug abuse etc.
3. Conduct small practical to assess morality, ethics, Indic values among masses.
4. Prepare project on Indology, *Ramayana* and ethical relevance, Mahabharata and socio-cultural relevance.
5. Prepare a street play on human socio-professional ethics or Indian culture.

SUGGESTIVE READINGS:

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai. B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Berger, A. (2012). Media and Society: A Critical Perspective.
4. Bertrand Russell, Human Society in Ethics and Politics
5. Corliss Lamont, Philosophy of Humanism
6. Gerber S. Scherer and H.Hefner D. (2016).Social Capital in Media Socities.: The Impact of Media use and media structure capital. International Communication Gazette, Vol. 78 (6), pp 493-513
7. Ramanujan, A.K. (1999) Folk Tales of India, edited by Brenda Beck and Peter J. Klaus, Chicago: Univ. of Chicago Press.
8. Schiffman, Harold. (1996) Linguistic Culture and Language Policy, London and New York: Routledge.
9. Van, G. (2017). Part-1: What is Culture and how does it Affect our Daily Lives? HUFFPOST.

E-Resources

1. https://hvpenotes.blogspot.com/2017/01/chapter-v-understanding-human
2. https://aktu.ac.in/hvpe/PDF Presentations/PDF English Presentation/HVPE
3. https://www.digitalg1.com/courses/kve301-kve401-uhvpe/kve301-kve401
4. http://www.huffingpost.com/gabriella-van-rij/part-1-what-is-culture-and-how-does-it-affect-our-daily-lives_b_9607312

हिन्दी भाषा एवं साहित्य
ADA03 (Hindi Bhasha evam Sahitya)

Total Credit – 02(1+1)
Max Marks40 (Th.30, Int 10)

पाठ्यक्रम के उद्देश्यः

- हिन्दी भाषा का सामान्य परिचय और उसके संचार के पक्षों का ज्ञान कराना।
- हिन्दी भाषा और साहित्य के प्रचलित स्वरूपों का संचार की दृष्टि से संचार कराना।
- हिन्दी भाषा का अन्य भाषाओं के साथ संबंधों का ज्ञान कराना।
- हिन्दी के प्रयोजनमूलक स्वरूप का प्रशिक्षण प्रदान करना।
- व्यावहारिक हिन्दी के वाचन और लेखन का कौशल विकसित करना।

अधिगम के परिणाम :

- हिन्दी भाषा की वाक्य संरचना के निर्माण व उसके प्रयोग में निपुणता।
- हिन्दी भाषा और साहित्य के प्रचलित स्वरूपों की संचार की दृष्टि से समझ और प्रायोगिक कुशलता।
- हिन्दी भाषा के अन्य भाषाओं के साथ संबंधों के ज्ञान से भाषा दक्षता में विकास।
- विद्यार्थी शब्द, अर्थ एवं व्याकरण के साथ भाषा के सामाजिक संदर्भ पर अपना दृष्टिकोण विकसित कर पाऐंगे।
- विद्यार्थी संपादकीय, टिप्पणी, प्रारूपण और पत्राचार का प्रयोग कर पाऐंगे।

इकाई–1	हिन्दी भाषा के तत्व और उनका बोध	L	T	P
1.1	भाषा और संप्रेषण, हिन्दी की लिपि, वर्तनी	1	1	-
1.2	हिन्दी की ध्वनियां, हिन्दी रूप रचना,	2	-	-
1.3	देवनागरी लिपि और उसकी विशेषताएं,	1	-	-
1.4	हिन्दी की उपभाषाएं	1	-	-

इकाई–2	हिन्दी भाषा और साहित्य की संरचना	L	T	P
2.1	हिन्दी की शब्दावली, हिन्दी का मानकः व्याकरण (सामान्य परिचय)	2	-	-
2.2	हिन्दी भाषा और साहित्य का संक्षिप्त इतिहास सामान्य परिचय	1	-	-
2.3	हिन्दी में विभिन्न विषयों का बोधन	1	-	-
2.4	हिन्दी पद्य के विकास का सामान्य परिचय	2	-	-

इकाई–3	व्यावहारिक हिन्दी और लेखन	L	T	P

3.1	मुहावरे, लोकोक्तियॉ और कहावतें	2	-	-
3.2	हिन्दी का सामाजिक संदर्भ, संवाद शैली	1	-	-
3.3	सरकारी पत्राचार तथा टिप्पण और प्रारूपण	1	1	-
3.4	अनुवाद करने का व्यावहारिक ज्ञान	1	-	-

इकाई–4	हिन्दी का प्रयोजनमूलक स्वरूप	L	T	P
4.1	प्रयोजनमूलक भाषा और हिन्दी के विविध रूप	1	-	-
4.2	प्रयोजनमूलक हिन्दी, सामान्य हिन्दी और पारिभाषिक शब्दावली	2	-	-
4.3	हिन्दी भाषा का अन्य भाषाओं के संबंध, हिन्दी भाषा में प्रयुक्त अन्य भाषाओं के शब्दों का ज्ञान	2	-	-
4.4	सम्पर्क भाषा हिन्दी, हिन्दी का अन्तर्राष्ट्रीय संदर्भ	1	-	-

इकाई–5	हिन्दी गद्य	L	T	P
5.1	हिन्दी गद्य का विकास, हिन्दी गद्य की विविध विधाएं	2	-	-
5.2	हिन्दी कहानी और उपन्यास :स्वरूप और विकास	1	-	-
5.3	समकालीन हिन्दी लेखन	1	-	-
5.4	हिन्दी एकांकी और नाटक : एक सामान्य परिचय	2	-	-

सत्रीय कार्य:

1. कम से कम 20 ऐसे हिन्दी शब्दों को लिखे जिसमें कुछ ध्वनियों के बदल जाने के कारण अर्थ–भेद होता है।

2. निम्नलिखित शब्दों को शब्दकोशीय क्रम में रखिए–भक्ति, अंग, महानता, त्योहार, संस्कृति, पूर्वी, पढ़ना, बड़ा, मानव, प्रकृति, ऋतु, मुख्य,फसल, पंक्तियां,महापुरूष, पूजा, भावना, ब्याज, जिक्र, तरक्की।

3. हिन्दी की समस्त उपभाषाओं की सूची बनाएं एवं उस पर संक्षिप्त टिप्पणी लिखें।

4. हिन्दी में खेल, अर्थव्यवस्था और विज्ञान विषयों पर पांच–पांच समाचार लेखन करें।

5. कम से कम पांच अलग–अलग विषयों (अनुशासनों) पर बीस–बीस पारिभाषिक शब्दावली की सूची बनाएं।

संदर्भ ग्रन्थ :

1. डॉ. भोलानाथ तिवारी (स): हिन्दी की ध्वनि संरचना, साहित्य, सहकार, कृष्णानगर, दिल्ली।

2. रामचंद्र वर्मा, अच्छी हिन्दी, इलाहाबाद।

3. वासुदेव नंदन प्रसाद, आधुनिक हिन्दी व्याकरण और रचना:, भारती भवन, पटना।

4. द्विवेदी हजारी प्रसाद,साहित्य सहचर, लोकभारती, प्रकाशन, इलाहाबाद।

5. कृष्ण कुमार गोस्वामी, प्रयोजनमूलक हिन्दी और कार्यालयीन हिन्दी, कलिंगा प्रकाशन, 1982,, नई दिल्ली।

6. राकेश शर्मा एवं नीलमणि शर्मा, (2019) राजभाषा हिन्दी : कल आज और कल, द क्रिएटिव आर्ट, दक्षिण पूर्वी दिल्ली—110044

7. गोपाल राय (2020) हिन्दी भाषा का विकास, राजकमल प्रकाशन, अक्षर, नई दिल्ली।

8. डॉ. हरदेव बाहरी, हिन्दी उद्भव, विकास और रूप, किताब महल,प्रकाशन, नई दिल्ली।

9. संत समीर, (2018) अच्छी हिन्दी कैसे लिखें, प्रभात प्रकाशन।

10.आचार्य रामचंद्र शुक्ल (2020) हिन्दी साहित्य का इतिहास, प्रभात प्रकाशन, नई दिल्ली

(NMS01) Fundamentals of Computers

Theory	-	Practical	30	Internal	10	Credits	2

Course Objectives

1. Identify various components of the computer.
2. Acquaint the students with the application of computers and understanding the latest trends in information technology.
3. To familiarize the student with various office automation software and component of office automation.
4. To make him comfortable to use MS Office Tools.
5. To develop expertise in word processing, spreadsheet, and presentation skills.

Course Outcomes

1. Use and identify various peripheral devices of the computer.
2. Use the Windows operating system and create files and folders, Printer Setting, Mouse, and keyboard Setting.
3. Create a document in word, Check Spellings, Mail Merges Documents, and Use various features of words.
4. Create an excel sheet, use various formulas, make different types of graphs for given data.
5. Make slides and use of animation and transition effects in PowerPoint presentations.

Unit 1	Introduction to Computer	L	T	P
1.1	Definition, Block Diagram, Generation of Computer, Speed, Storage, Hardware & Software, Types of Computer, Desktop Computer, Laptop Computer, Palmtop Computer, Super Computer, Mainframe , Mini Computer, PC (Discussion, Practical)	-	1	1
1.2	**Memory:** Units, Types - Primary memory: RAM, ROM, PROM, EPROM, EEPROM, DDR, SRAM, DRAM (Discussion, Practical)	-	-	1
1.3	Secondary memory: Hard Disk, CD, DVD, Blue-Ray Disc, Pen Drive Magnetic Tape , Floppy disk & Zip Disk, Port: Serial, Parallel, USB, Use of Cloud Storage, Google Drive, Drop box (Discussion, Practical)	-	-	1
1.4	CPU: Functions of CPU, Mother Board, Graphics Card, Sound Card, Network Card – Modem (Discussion, Practical)	-	-	1

1.5	**Input, Output devices**: Keyboard, Mouse, Scanner, Digital Camera, Joystick, Pen drive, Monitor Types of Monitors, printers Types of Printer, Plotter, Scanners. Introduction to drivers (Discussion, Practical)	-	-	1

Unit 2	**MS-Windows, Mobile OS and Open Source**	L	T	P
2.1	**Definition of Operating System** - Functions of OS, Types of OS: Single user, Multi-User, **Windows Desktop** - **GUI:** Definition, Standards, Cursors/Pointers, Icons, GUI Menus, GUI-– Desktop icons and their functions (Discussion, Practical)	-	-	1
2.2	My computer, My documents, Network Neighborhood, Recycle Bin, Quick launch Tool Bar, System Tray, Start Menu, Taskbar **Dialog Boxes**: List Box, Spin Control Box, Slide, Drop-down list, Radio button, Check box, Text box (Discussion, Practical)	-	1	1
2.3	**Parts of Windows** -Title bar, Menu bar, Scroll bar, Status Bar, Maximize, Minimize, Close and Resize & Moving a Window – **Windows** - Start Menu –Help Menu- Preview Menu; Logoff & Shutdown (Discussion, Practical)	-	-	1
2.4	Working with Notepad & WordPad: Opening & Saving files, Formatting, Printing, Inserting objects, Creating & Editing Images with Microsoft paint, Using the Calculator – Personalizing Windows (Discussion, Practical)	-	-	1
2.5	**Introduction to Mobile,** Mobile Operating Systems (Android, IOS, Blackberry), Mobile apps, File Transfer, Various file format like JPEG, MPEG, Bitmap, PNG etc. Introduction to open Source softwares Introduction open office, Introduction to Linux OS (Discussion, Practical)	-	-	1

Unit 3	**MS Word**	L	T	P
3.1	**Working with Documents** -Opening & Saving files, Editing Text documents, Inserting, Deleting, Cut, Copy, Paste, Paste Special, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Using Toolbars, Ruler (Discussion, Practical)	-	-	1
3.2	(**Formatting Documents** - Setting Font Styles, Font selection- Style, Size, color, etc. Typeface - Bold, Italic, Underline, Case Settings, Highlighting, Special Symbols, Paragraph Setting, Alignments, Indents, Line Space, Margins, Bullets & Numbering	-	-	1

	(Discussion, Practical)			
3.3	**Setting Page style -** Formatting Page, Page tab, Margins, Layout settings, Columns, Header & footer, Page Numbering, Date & Time (Discussion, Practical)	-	1	1
3.4	Creating Tables- Table Settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting, Convert Text to Table, Convert Table to Text (Discussion, Practical)	-	-	1
3.5	**Drawing -** Inserting Clipart, Pictures, Shapes, Textbox, SmartArt, Files, **Tools –** Use of Spell Checks, Mail Merge, Envelop, Labels (Discussion, Practical)	-	-	1

Unit 4	MS Excel	L	T	P
4.1	**MS Excel:** SpreadSheet & Its Applications, Opening Spreadsheet, Menus - Main Menu, Formula Editing, Formatting, Toolbars, Using help, Shortcuts, Spreadsheet Types. Working with Spreadsheets-opening, Saving files, Setting Margins, Spreadsheet addressing - Rows, Columns & Cells, Referring Cells& Selecting Cells – Shortcut Keys (Discussion, Practical)	-	-	1
4.2	**Entering & Deleting Data-** Find, and Replace, Inserting Data, Insert: Cells, Column, Rows, Sheets, Symbols, Data from External files, Clipart, Pictures, Files, etc. Inserting Functions (Discussion, Practical)	-	-	1
4.3	**Formula –** Relative and Absolute References Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation, Percent, SUM, COUNT, AVG, MAX, MIN (Discussion, Practical)	-	-	1
4.4	Chart: Various Chart Types, Creating each types of Charts, Add Labels, Title, Legends (Discussion, Practical)	-	1	1
4.5	**Formatting**: Cell Data, Auto Fills, Border and Shading (Discussion, Practical)	-	-	1

Unit 5	MS PowerPoint	L	T	P
5.1	**MS PowerPoint**: **Introduction:** Multimedia, Components of Multimedia, Applications of Multimedia, Introduction to PowerPoint, Features, Working with Presentation, different views, Inserting, Deleting and Copying of Slides Working with Speaker Notes (Discussion, Practical)	-	-	1

5.2	. Handouts, Columns & Lists, Slide Layout and its types, Adding Graphics, Sounds, and Movies to a Slide, Animation, Transition (Discussion, Practical)	-	-	1
5.3	Working with PowerPoint Objects, Slide Show, Wizards, Slide Master, Chart, SmartArt, Changing Themes (Discussion, Practical)	-	-	1
5.4	Types of Networks: LAN, WAN, MAN, Topologies of LAN -Ring, Bus, Star, Mesh and Tree Components of LAN – Media, NIC, NOS, HUB, Bridge, Router Repeater and Gateways (Discussion, Practical)	-	-	1
5.5	**Internet**: History of the Internet, WWW, Clients, and Servers, Protocols (TCP/IP, HTTP, FTP), Search Engines, Portals, Internet Communication Services: Emails, Blogs, Mobile communications (Discussion, Practical)	-	1	1

Practical / Projects/Assignments:

1. Lab Experiments for Word

Create the table shown below:

Troubleshooting Option	Explanation	Cost
Cable Checker	3 devices for each office, @ Rs 225 a piece	Rs. 675
Onsite Troubleshooting	40 hours of onsite troubleshooting, @ Rs120 an hour	Rs. 4,800
Cable Tester	1 device to be shared among three offices	Rs. 1,400

a) Insert a new row just below the Cable Tester row, and then enter the following information into the new row:
   - Troubleshooting Option: Onsite Training
   - Explanation: Informational seminar for all Madison employees
   - Cost: Rs 300
b) Modify the widths of columns A and C to accommodate the widest entry in each, and then right-align the Cost column.
c) Select the Heading row and Bold and Center the headings.
d) Save the document.

2. Lab Experiments for Word

Type the following Paragraph as given.

"My Dream career"

My ambition of life is to become a doctor. I have taken up scince and hygiene as optsional subjects. When I joint college, I shall take up medical group. I shall appear in the P.M.T.examinationn to qualify for joining a Medical College. After parssing the P.M.T., I shall joinn the medical college to become a doctor.

I would like to be a doctor. My country has become fre, Governmment has decided to uproot the diseases from the country and improve the health of the people. Hospitals are being opened for this purpose. There is great demand for doctor. Takingg all these things into considaration. I have made up mind to become a doctor.

I do not want to be clerrk. This line does not suit me. I do not want to be a teacher. Law is not a paying profession these days so becoming lawer is not my goal.

a) Correct any spelling errors displayed in the given text.

b) Save the document as <My Dream >_W01.

c) Change the layout of the page as given below.

>Page size: A4 (8.27″ x 11.69″) >Page orientation: Landscape

d) Change the page margins as follows:

>Top: 1.25″>Bottom: 1.25″>Right: 1.25″>Left: 1.25″

e) Format the entire document as given below.

>Line spacing: 1.15" >Font: Times New Roman >Font size: 14

>Align: Justify

f) Select the heading "Academy award" and format it as given below.

>Font color: blue >Style: Bold and underline >Align: Center

>Change all the letters to UPPERCASE

g) Make the first letter of the paragraph larger and fall into three lines (Drop cap).

h) Format the heading "My Dream career" with Style: Heading 2.

i) Create a bulleted list for the last paragraph lines of document.

j) Enter "My Document Tutorial" text as the heading of the table and format it to get the following output using a Wordart. (Font: Arial Black, Font size: 16, Align: Center)

k) Insert a footer with the following formatting options.

>Caption: <My First Document>>Font: Times New Roman >Font size: 12

l) Insert the W01 image given in the "Resources" directory, to the right hand side of the bulleted list of the document.

m) 14.Prepare your class time table using and Format the entire table as given below.

Change the cell size of the table to Auto Fit to Contents. >Align: Center

n) Select the Heading row and format it as given below.

Convert all text in to capital letters >Style: Bold >Align: Center

o) Insert a new row just below the last row of the table and enter the following information into the new

p) Send a Call Letter for All Applicants to Inform Interview Details using Mail Merge Base

3. Lab Experiments for Excel

In a new worksheet, create a table and insert the following information. Use different fonts for different columns.

- Names of people (at least 25)
- Their ages
- Number of years they have worked
- Salary per month
- Show housing, medical, travel and hardship allowances, and columns

Using the table to do the following:

a) Calculate the total salary for each person and grand total for all persons.

b) (Calculate Average, Minimum, Maximum and count entries.

c) Show a graph of the their salaries

d) Copy and paste your graph from sheet 1 to sheet 2, name your graph sheet 'CHARTS'

e) Add columns where necessary to include: leave payment, over time payment and sick off amount, and then calculate the net salary

4. Lab Experiments for Excel

	A	B	C	D	E	F	G	H
1		January	February	March	April	May	June	Average
2	House Payment	750	750	750	750	750	750	
3	Charity	200	200	200	200	200	200	
4	Groceries	300	425	425	290	325	350	
5	Car Payment	300	300	300	300	300	300	
6	Gasoline	45	45	50	55	45	60	
7	Clothing	100	75	60	50	100	85	
8	Utilities	95	85	95	90	80	90	
9	Total							
10	Income							
11								

Graph 1 – Pie Chart

a) This graph will show the total amount of money spent on each category over a six-month period.

b) To do this, you must total the amount spent on each item in column I. Do not include the average in your equation.

c) Next, highlight the expenses (house payment, gasoline, etc). Hold down the Ctrl key and highlight your new totals.

d) Create a pie chart. Go to data labels and show the percentages.

e) Cut and paste all the information you need and the graph to a new sheet.

Graph 2. – Bar Chart

This will be a bar chart for income and expenses.

Below your total column, type Income in A12. Enter the income for each month. They are as follows:

January: 2,000
February: 2,100
March: 2,000
April: 1,900
May: 2,500
June: 2,200

- Create a bar chart

5. Lab Experiments for MS PowerPoint

a) Create a presentation with four blank slides.

b) Modify the presentation as follows.

c) Insert a suitable design template.

d) Insert a footer to show Your name and your Student ID.

e) Insert Today's date as a fixed date in the date area.

f) Make necessary changes to appear slide numbers in the slide number area.

g) Make necessary changes so that the footer, date and the slide number do not appear on the title slide (first slide).

h) Add content to the title slide (first slide) by following the instruction given below.

i) Type "River" as the slide title and it's format should be Font Type: Arial, Style: Bold, Size:96, Color: Black [10 marks]

j) Type "Our Life Support" as the sub title and insert an image from the resources directory to a suitable location.

k) Add content to the second slide by following the instruction given below.

l) Type the slide title as, "Rivers of North India" and format it as,

  Font Type: Arial, Style: Bold, Size: 44, Color: Black

m) Insert the following content as shown below.

  - The Ganga

  - Indus

  - Bamhaputra

n) In the third slide, add the following components.

o) Type the slide title as, "Tributaries"

p) Insert Rivers and their tributaries of slide 2 in a table.

q) Insert few more important Rivers of India with their regions.

r) Add the following animation effects to your presentation.
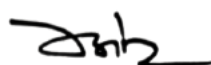
s) Apply emphasis animation effect to each main point and sub point in the second slide.

t) Apply sound effect when the second slide appears in the slideshow.

u) Hide the fourth slide from the slide show.

v) Save your presentation with the following file name < Rivers of _North India>_ P01.

Suggested Readings:
1. Pradeep K Sinha, Priti Sinha, Computer Fundamentals, Sixth Edition BPB Publications
2. Alexis Leon & Mathews Leon-Fundamentals of Information Technology- Vikas Publishing House, New Delhi.
3. V. Rajaraman, Neeharika Adabala, Computer Fundamentals, PHI
4. Peter Weverka "Office 2019 All-in-One For Dummies (Office All-in-one for Dummies)" 1st Edition
5. Reema Thareja -Fundamentals of Computers- Oxford University Press- First Edition
6. E. Balagurusamy-Fundamentals of Computers - Mcgraw Hill

E-Resources:
1. https://www.tutorialspoint.com /computer_fundamentals/index.htm
2. https://www.tutorialspoint.com/word/word_getting_started.htm
3. http://www.apcce.gov.in/doc/04.MS%20Excel.pdf
4. https://www.tutorialspoint.com/powerpoint/
5. https://www.tutorialspoint.com/windows10/

Semester II

(NMC03) Fundamentals of Multimedia

Theory	80	Practical	-	Internal	20	Credits	5

Course Objectives

1. To understand Computer, Software and Operating System
2. To learn about Multimedia and Hypermedia
3. To get the perspectives of Multimedia
4. To understand the various elements of multimedia
5. To understand the Multimedia on the web

Course Outcomes

1. Understanding of computer hardware and applications
2. Design multimedia applications
3. Basic understanding of multimedia elements
4. Apply audio and video in various applications
5. Apply various multimedia elements for web

Unit 1	Basics of Computer	L	T	P
1.1	Computer System Concepts, Types Of Computers, Basic Components of a Computer System, Memory (Lecture, Discussion, Assignment)	2	1	-
1.2	Input Devices, Output Devices, Various Storage Devices (Lecture, Discussion, Participation)	2	1	-
1.3	Software Types, System software, Application software. System Software - Operating System, Utility Program, Assemblers, Compilers and Interpreter (Lecture, Discussion, Practice)	2	1	-
1.4	Application Software - Word processing, Spreadsheet, Presentation Graphics, Database Management System, Multimedia (Lecture, Discussion, Practice, Assignment)	2	1	-
1.5	Understanding Information Communication Technologies (Lecture, Discussion, Quiz)	2	1	-

Unit 2	Introduction to Multimedia	L	T	P
2.1	Multimedia - Introduction, Applications, Components (Lecture, Discussion, Practice, Assignment)	2	1	-
2.2	Hardware and Software requirements, Characteristics of effective multimedia presentation	2	1	-

	(Lecture, Discussion, Practice, Assignment)			
2.3	Overview of Multimedia Authoring Tools, Interactive media (Lecture, Discussion, Practice)	2	1	-
2.4	Hypermedia, Distributed Multimedia Applications (Lecture, Discussion, Practice)	2	1	-
2.5	Multimedia Database Systems, Virtual Reality (Lecture, Discussion, Group activity)	2	1	-

Unit 3	Text and Graphics	L	T	P
3.1	Text - Introduction, Standards - ASCII, Unicode, Fonts (Lecture, Discussion, Practice)	2	1	-
3.2	Graphics - Introduction, Types, Color and color models, digital images (Lecture, Discussion, Practice, Assignment)	2	1	-
3.3	Image processing, Graphic file formats (Lecture, Discussion, Practice, Quiz)	2	1	-
3.4	Graphics input and output devices (Lecture, Discussion, Assignment)	2	1	-
3.5	Graphics Software (Lecture, Discussion, Practice)	2	1	-

Unit 4	Audio and Video	L	T	P
4.1	Audio - Introduction, attributes, Mono V/s Stereo audio, audio channels (Lecture, Discussion)	2	1	-
4.2	Analog V/s Digital audio, Musical Instrument Digital Interface (MIDI), File formats (Lecture, Practice)	2	1	-
4.3	Audio recording and editing - hardware and software, Podcasting, Digital Radio (Lecture, Practice)	2	1	-
4.4	Video - Introduction, Video frames and frame rate, video recording and editing - hardware and software, File formats (Lecture, Discussion, Practice)	2	1	-
4.5	Animation - Introduction, Principles, Types and Uses, Animation Software (Lecture, Discussion, Practice)	2	1	-

Unit 5	Multimedia on the Web	L	T	P
5.1	Introduction of web site and web page, Bandwidth (Lecture, Discussion)	2	1	-
5.2	Text on the web - Dynamic and embedded font technology (Lecture, Discussion, Practice)	2	1	-
5.3	Audio and video on the web, buffering and streaming (Lecture, Discussion, Practice)	2	1	-
5.4	Hypermedia and Hyperlink (Lecture, Discussion)	2	1	-
5.5	Webcasting, video conferencing (Lecture, Discussion)	2	1	-
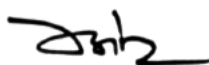
Practical / Projects/Assignments:
1. To prepare a multimedia element project.
2. To prepare a project of graphics file format.
3. To develop an Audio Storytelling project.
4. To identify types of Animation.
5. To prepare a list of web elements.

Suggested Readings:
1. An Introduction to Multimedia, John Villamil- Casanova, Louis Molina. ISBN 1575765578 / ISBN 9781575765570.
2. Designing Interactive Multimedia Systems, Mohammad Dastbaz. ISBN: 9780077098636
3. Multimedia Networking, Bohdan O. Szuprowicz. ISBN-978-0070631083
4. Multimedia on the Web, Stephen McGloughlin.
5. Adobe Photoshop CS6 Bible, Lisa DanaeDayley , Brad Dayley, Wiley publication. ISBN: 978-1-118- 12388-1
6. Photoshop CS6 in Simple Steps, Kogent Learning Solutions Inc. ISBN 9789350045879
7. Sound Forge 9.0 in Simple Steps, Kogent Solutions Inc., Dreamtech Press, ISBN-13: 978-8177228649
8. Parekh Ranjan, "Principles of Multimedia", Tata McGraw-Hill, 2007
9. AnirbanMukhopadhyay and Arup Chattopadhyay, "Introduction to Computer Graphics and Multimedia", Second Edition, Vikas Publishing House.
10. Joey Lott and Robert Reinhardt. : Flash 8 Action Script Bible. Published by Wiley India (P) Ltd.2006
11. Kelly L. Murdock, 3ds max TM 4 Bible, John Wiley & Sons

E- Resources:

1. Li, Z., & Drew, S. (2004). Fundamentals of Multimedia [Ebook]. Pearson Education International.
2. Parekh, Ranjan. (2012). 2012: Principles of Multimedia (2/e).
3. https://www.strumentimusicali.net/manuali/SONY_SOUNDFORGEPRO10_ENG.pdf

(NMC04) Photography and Image Editing using Photoshop

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives

1. To acquaint students with knowledge of the digital camera & camera mounting devices
2. To teach various aspects of lighting and its impact on photography
3. To learn different camera lenses and other basic photographic equipment
4. To practice and be able to move freely throughout the medium
5. To cover the beginning skills of image production and manipulation, using the industry-standard Adobe Photoshop to work with digital images for both Web and Print use

Course Outcomes

1. Understanding basic concepts and practice of Photography including understanding and use of the camera, lenses, and other basic photographic equipment
2. Demonstrate competency in identifying Photoshop interface elements
3. Construct simple documents utilizing selections, layers, and blending modes
4. Differentiate between simple graphic file formats and choose the appropriate usage for each
5. Demonstrate competency in identifying colour model

Unit 1	Basics of DSLR/SLR Camera	L	T	P
1.1	Evolution of Camera (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.2	History of Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.3	Photography Camera basics, Using different Focal Length Lenses, Filters and its types (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.4	Types of DSLR/SLR camera & Camera Mounting Devices (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.5	Parts of DSLR /SLR camera: Lens, Aperture, Shutter, Camera Sensor, ISO Setting, Storage media, Flash (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 2	Aesthetics of Photography & Lighting	L	T	P
2.1	Impact of color in Photography Association of color moods hue, saturation, Color Temperature, White balance (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
2.2	Tone, shade, brightness, color contrast, Complimentary color, Basic lighting technique, Three point lighting and its effects (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
2.3	Rule of Third, Balancing Elements, Leading lines, Lighting angles and directions (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
2.4	Texture, Viewpoint, Depth of field, Patterns, Color (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
2.5	Types of Photography lights (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 3	Photography & Photoshop	L	T	P
3.1	Sports & Action Photography, Portrait Photography, Candid Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
3.2	Product Photography,Wildlife & Nature Photography, Archaeological Photography, Architecture Photography, Aerial Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
3.3	Using Photoshop for image editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
3.4	Workspace, Using Layers, Modes, Filters (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
3.5	Customizing preferences (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 4	Digital Image Editing	L	T	P
4.1	Editing Image, Colour mode in Photoshop (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
4.2	Making Color Adjustment (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

4.3	File Formats of Image (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
4.4	Working with Selection tools, Modifying and transforming Selections. Saving and Loading Selections (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
4.5	Using Drawing and Painting tools, Using Retouching tools, Setting foreground and background color, Working with Layers, Moving layers, Linking and Unlinking layers Working with adjustment Layers ,masking Layers, Applying layer style (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 5	Effect and Filter	L	T	P
5.1	Applying Filters, Creating and editing smart objects (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
5.2	Filter Gallery, Text editing in Photoshop (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
5.3	3D artwork in Photoshop (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
5.4	Animation in Photoshop, Printing in Photoshop (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
5.5	Open source tools for design and image editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
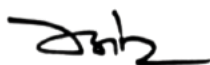
Practical/Projects/Assignments:
1. Create a one Image Using Multi Images.
2. Create Mask Image.
3. Create GIF Animation.
4. Prepare Filter edited image.
5. Prepare the assignment on types of photography lights.

Suggested Readings:

1. Handbook of Photography- Pradeep Tiwari- MCNUJC, Bhopal
2. Langford's Basic Photography: The Guide for Serious Photographers, Edition 0ISBN9781317964728.
3. The Digital Photography by Scott Kilby
4. Adobe Photoshop CS4 for Photographers: A professional Image Editors Guide By Martin Evening(2006)
5. Photoshop CS4 in Simple Steps by Kogent Learning Solutions Inc. Published by dremtech press(2008)
6. Gonzalez and Woods, "Digital Image Processing'' 2002, Pearson education, Asia.

E-Resources:

1. https://www.borrowlenses.com/blog/creating-publishing-first-photography-book/
2. https://edu.gcfglobal.org/en/photoshopbasics/getting-to-know-the-photoshop-interface/1/
3. http://edit.educ.ttu.edu/site/jcheon/manual/Digital_Photography.pdf

(ADA04) Environmental Science and Sustainable Development

Credit- 2
Total Marks: 40

COURSE OBJECTIVE
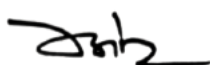
1. To demonstrate a congenial learning of Environment Factors to students
2. To generate in students the awareness about Environmental Problems
3. To define the types of Environmental Ecosystems & its formation to students
4. To associate the knowledge of various Environmental Ethics to students
5. To illustrate to the students problems relating to Human Population on Environment

COURSE OUTCOMES (CO)

1. Recognize various environmental factors
2. Analyze environmental problems
3. Characterize ethical issue for environmental related issue
4. Identity methods to protect environmental
5. Recognize effect to population on environmental

UNIT-1	The Multidisciplinary Nature of Environmental Studies and Natural Resources
1.1	Natural resources and associated problems. Forest resources: Use and Over-exploitation, deforestation, (Class room lectures)
1.2	Water resources: Use and over-utilization of surface and ground water. (PPTs)
1.3	Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources. (PPTs & Class room lectures)
1.4	Energy resources: Growing energy needs, renewable and non-renewable energy sources. (PPTs)
1.5	Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. (Class room lectures)

UNIT-2	Ecosystems, Biodiversity and its Conservation
2.1	Concept, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food webs and ecological pyramids (Class room lectures & PPTs)
2.2	Introduction, types, characteristic features, structure and function of the following ecosystem: - Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans,

	estuaries) (PPTs)
2.3	Biodiversity introduction-Definition: genetic, species and ecosystem diversity. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity (PPTs & Class room lectures)
2.4	Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, endangered and endemic species of India (PPTs & Case study related to Kanha Wild life reserve)
2.5	Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity (PPTs & Class room lectures)

UNIT-3	**Environmental Pollution**
3.1	Definitions. Causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards (PPTs)
3.2	Solid waste Management: Causes, effects and control measures of urban and industrial wastes (PPTs & Class room Lectures)
3.3	Role of an individual in prevention of pollution (PPTs & Class room lectures,)
3.4	Pollution case studies (Case Study)
3.5	Disaster management: floods, earthquake, cyclone and landslides (PPTs & Class room lectures)

UNIT-4	**Social Issues and the Environment**
4.1	From Unsustainable to Sustainable development. Water conservation, rain water harvesting, watershed management. (PPTs &Case Studies related to watershed management)
4.2	Environmental ethics: Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies (PPT)
4.3	Wasteland reclamation, Consumerism and waste products (PPT & class room lectures)

4.4	Environment Protection Act- Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wildlife Protection Act (PPT & class room lectures)
4.5	Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness (PPT)

UNIT-5	Human Population and the Environment
5.1	Population growth, variation among nations (PPT & class room lectures)
5.2	Population explosion-Family welfare Program (PPTs)
5.3	Environment and human health (PPTs , class room lectures& GDs)
5.4	Human Rights, Value Education, HIV/AIDS, Women and Child Welfare (PPTs & Class room lectures)
5.5	Role of information Technology in Environment and human health. (Class room lectures)
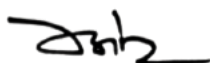
Practical / Projects / Assignments:
1. Project report on ill effects of environmental pollution.
2. Group Study on biotic & a biotic components of environment.
3. Perform a case study on 10 households in your vicinity and mention the type of natural and renewable resources they use or consume on a day-to-day basis.
4. Mention along with photographs and small description of major types of biotic (fauna and Flora (5 each) and a biotic components (minimum 5) that are present in your surrounding areas.
5. Prepare a short story with picture illustrations of the ill effect of environmental pollution in your surrounding areas.
6. Mention the legal Acts to Prevent and Control Pollution.
7. Mention the role of media towards prevention, control and awareness towards future environmental pollution impacts and consequences.

Suggested Readings:

1. Srivastava, Smriti.(2009). Environmental Studies.NewDelhi:S.K. Kataria& Sons
2. Dhankar, Rajesh.(2006).Environmental Studies.New Delhi: Daya Books Pvt. Ltd.
3. Kanagasabai, S.(2010). Environmental Studies.NewDelhi:PHI Learning Pvt. Ltd
4. Bagad,Anjali.(2009). Environmental Studies. New Delhi: Technical Publications.

E- Resources:

1. https://www.ugc.ac.in/oldpdf/modelcurriculum/env.pdf
2. https://www.kopykitab.com/Environmental-Studies-by-J-P-Sharma
3. https://www.tutorialspoint.com/environmental_studies/environmental_studies_tutorial.pdf
4. https://www.ametuniv.ac.in/exam_attachment/Question%20Bank/UG/Marine-Bio-Technology/EVS.pdf

(ADA05) English Language and Literature

Theory	30	Practical	-	Internal	10	Credits	2

Course Objectives
1. To help learners use English Language for contemporary academic and social needs
2. To enable students to learn to use language creatively and critically
3. Develop Oral and Written Communication
4. To enable students comprehend complex English Texts
5. To develop language skills with the literary texts

Course Outcomes
1. Comprehend language and Communication Skills in academic and social contexts
2. Cope with complex language use
3. Communicate precisely orally as well in Written Communication
4. Read and understand literary and non literary texts
5. Understand and appreciate literary texts

Unit 1	English Grammar	L	T	P
1.1	Parts of Speech (Lecture, Discussion)	1	1	-
1.2	Direct Narratives (Lecture, Discussion)	1	-	-
1.3	Indirect Narratives (Lecture, Discussion)	1	-	-
1.4	Types of Sentences (Lecture, Discussion)	1	-	-
1.5	Tense (Lecture, Discussion)	1	-	-

Unit 2	Basic Language Skills	L	T	P
2. 1	Vocabulary (Lecture, Discussion)	1	-	-
2.2	Synonyms (Lecture, Discussion)	1	1	-
2.3	Antonyms (Lecture, Discussion)	1	-	-
2.4	Prefixes (Lecture, Discussion)	1	-	-
2.5	Suffixes (Lecture, Discussion)	1	-	-

Unit 3	**Oral and Written Communication Skills**	L	T	P
3.1	Listening (Lecture, Discussion)	1	-	-
3.2	Speaking (Lecture, Discussion)	1	-	-
3.3	Reading (Lecture, Discussion)	1	1	-
3.4	Body Language (Lecture, Discussion)	1	-	-
3.5	Writing Formal and Informal Letters (Lecture, Discussion)	1	-	-

Unit 4	**Creativity Through Language**	L	T	P
4.1	Comprehension (Lecture, Discussion)	1	-	-
4.2	Paragraph Writing (Lecture, Discussion)	1	-	-
4.3	Precise Writing (Lecture, Discussion)	1	-	-
4.4	Unseen Passage (Lecture, Discussion)	1	1	-
4.5	Essay Writing (Lecture, Discussion)	1	-	-

Unit 5	**Appreciating Literature**	L	T	P
5.1	The Solitary Reaper - William Wordsworth (Lecture, Discussion)	1	-	-
5.2	The Portrait of a Lady- Khushwant Singh (Lecture, Discussion)	1	-	-
5.3	Where the mind is without fear- Rabindranath Tagore (Lecture, Discussion)	1	-	-
5.4	Indian Weavers- Sarojini Naidu (Lecture, Discussion)	1	-	-
5.5	A Hero- R. K. Narayan (Lecture, Discussion)	1	1	-

Practical/Projects/Assignments:
1. Creating a Digital Profile – LinkedIn (Resume/Video Profile)
2. Word Games
3. Writing Slogans
4. Role Play
5. Extempore and Debates
6. Writing Picture Stories

Suggested Readings:
1. Parul Popat. Communication Skills . Pearson Education: 2015
2. Professional Speaking skills, Aruna Koneru, Oup, 2015
3. Scanlon, Jaimie, et al. *Q: Skills for success. Listening and Speaking.*2 Oxford University Press, 2015
4. Meena Agarwal, English Communication, 2016, Edition 1, ISBN-13: 978-9351676737
5. How to Speak and Write Correctly, Joseph Devlin, 2017, Edition 1, CreateSpace Independent Publishing Platform, ISBN-13: 978-1974637218
6. Oxford English Dictionary and Thesaurus
7. Collected Poems of William Wordsworth
8. The Portrait of a Lady- Khushwant Singh
9. Where the mind is without fear- Rabindranath Tagore
10. Indian Weavers- Sarojini Naidu
11. A Hero- R. K. Narayan

E-Resources:
1. Basic English Grammar rules with example sentences accessed at https://basicenglishspeaking.com/basic-english-grammar-rules/
2. Basic English Grammar rules accessed at https://grammar.yourdictionary.com/grammar-rules-and-tips/basic-english-grammar-rules.html
3. English Grammar accessed at https://www.englishgrammar101.com/
4. Basics of English Grammar accessed at https://www.talkenglish.com/grammar/grammar.aspx
5. Complete Handbook of English Grammar accessed at https://www.learngrammar.net/english-grammar
6. Listening for Pronunciation Practice accessed at http://orelt.col.org/module/unit/1-listening-pronunciation-practice
7. Phonetics: The Sounds of Language https://scholar.harvard.edu/files/adam/files/phonetics.ppt.pdf

Co- Curricular- 1

Bachelor's :I Year				Marks:40			Credits:2		
ADA06 (A) Parliament: Practice and Procedure				**Th**	**Pr**	**Ia**	**Credit/ hours**		
							L	**T**	**P**
				-	30	10	-	1/1	1/2

Course Objectives
- To acquaint students with knowledge of the Indian Constitution.
- To make students familiar with concept of Parliament.
- To understand the concept of various practices and procedures of Indian Parliament
- To develop understanding about powers and privileges of Parliamentary and Legislative members

Learning Outcomes
- Students will be able to understand the concept of Indian Constitution and Parliament.
- Students will be able to understand working of Indian Parliament
- Students will be able to understand and analyze working of State Assembly and Legislative Councils
- Ability to apply the theory into practice.

Unit-1	**Introduction to Indian Constitution** (Total hours- L+T+P=6hrs)	L	T	P
1.1	Introduction to Indian Constitution	-	1	1
1.2	History of Indian Constitution	-	-	2
1.3	Characteristics of Indian Constitution	-	-	2

Unit-2	**Introduction to Indian Parliament** (Total hours- L+T+P=6hrs)	L	T	P
2.1	Introduction to Indian Parliament	-	1	1
2.2	History of Indian Parliament	-	-	2
2.3	Powers of Indian Parliament	-	-	2

Unit-3	**Lok Sabha and Rajya Sabha** (Total hours- L+T+P=6hrs)	L	T	P
3.1	Introduction to Lok Sabha	-	1	1
3.2	Functions of Lok Sabha	-	-	2
3.3	Introduction and Functions of Rajya Sabha	-	-	2

Unit- 4	**State Assemblies and Legislative Councils** (Total hours- L+T+P=6hrs)	L	T	P
4.1	Introduction to State Assemblies	-	1	1
4.2	Election of Members	-	-	2
4.3	Functions of State Assemblies	-	-	2

Unit 5	Different Parliamentary Systems in World (Total hours- L+T+P=6hrs)	L	T	P
5.1	British Parliamentary System	-	1	1
5.2	US Parliamentary System	-	-	2
5.3	Australian Parliamentary System	-	-	2

Practical/Projects/Assignments:

➢ Role play/Skit/Mock Parliament.

➢ PPT Presentation on various contemporary issues

➢ Visit to Vidhan Sabha

➢ Virtual tour of the Indian Parliament.

➢ Any other assignment given by the concerned faculty.

Suggested Readings:

➢ Kaul M.N and Shakdher S.L, Practice and Procedure of Parliament, Lok Sabha Secretariat, New Delhi, Seventh Edition

➢ Khosla Madhav, The Constitution of Most Surprising Democracy, Oxford

➢ Basu Dr. Durga Das, Introduction of Indian Constitution, Lexis Nexis, 2019

➢ Rules of Procedure and Conduct of Business in the Council of States, Rajya Sabha Secretariat, New Delhi,2013.

➢ Chaudhary Sujit, Khosla Madhav and Mehta Pratap Bhanu, The Oxford Hand book of the Indian Constitution, Oxford University Press U.K,2016

➢ Role of Rajya Sabha in Indian Parliamentary Democracy, Rajya Sabha Secretariat, New Delhi,2019

➢ Narain Dr. Yogendra, Role and Relevance of Rajya Sabha in Indian Polity, Rajya Sabha Secretariat, New Delhi.

➢ Kashyap Subhash C., Our Parliament, National Book Trust, India

➢ Handbook for Members of Rajya Sabha, Rajya Sabha Secretariat, New Delhi, 2010

➢ Bakshi PM, Constitution of India, Universal Law Publishing, 2017

➢ De Rohit, A Peoples Constitution, Princeton University Press,2018.

E-Resources:

➢ https://eparlib.nic.in

➢ https://epgp.inflibnet.ac.in

➢ http://Indias-Founding-Moment-Constitution-Surprising-ebook/

Co- Curricular- 1

ADA06 (B) भारतीय संगीत

CC/CE/ SE/OE	L	T	P	Credit	Continuous Evaluation Marks	End-Term Practical Exam Marks	Total Marks
CC	0	1	1	2	10	30	40

उद्देश्य

/1विद्यार्थियों में वैदिक युग सी चली आ रही संगीत परंपरा का परिचय कराना ।

/2जीवन में संगीत के महत्व को समझना ।

/3हिन्दुस्तानी संगीत की परिभाषाओं थाट और अलंकार को जानना एवं अभ्यास ।

/4लय, ताल, थाट, राग का परिचय एवं अभ्यास ।

5/ शब्द उच्चारण, राष्ट्रगान, गीत, गजल भजन का अभ्यास कराना ।

शिक्षण के परिणाम

/1भारतीय संगीत की परंपरा और महत्व की समझ ।

/2थाट, अलंकार, लय, ताल की सक्षिप्त जानकारी एवं अभ्यास ।

/3राग यमन, विलावल, खमाज में घोटा ।

/4ख्याल की प्रारंभिक जानकारी ।

/5शब्द उच्चारण के महत्व के साथ भजन गीत, गजल, राष्ट्रगान की प्रारंभिक जानकारी ।
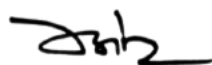
ईकाई 1 –	परिभाषायें	L	T	P
1.1	संगीत, स्वर, अलंकार		1	-
1.2	थाट, राग, सप्तक		1	-
1.3	आरोह, अवरोह		1	2
1.4	पकड़ वादी, संवादी		-	2
1.5	अनुवादी, विवादी		-	2

ईकाई –2	हिन्दुस्तानी संगीत	L	T	P
2.1	हिन्दुस्तानी संगीत पद्धति के दस थाट एवं उनके सांकेतिक चिन्ह ।		1	2
2.2	हिन्दुस्तानी संगीत पद्धति के दस थाट एवं उनके सांकेतिक चिन्ह ।		1	1
2.3	हिन्दुस्तानी संगीत पद्धति के दस थाट एवं उनके सांकेतिक चिन्ह ।			1
2.4	हिन्दुस्तानी संगीत पद्धति के दस थाट एवं उनके सांकेतिक चिन्ह ।			1
2.5	तक प्रारंभिक अलंकार लेखन 10 से 1		1	1

ईकाई –3	स्वरलिपि पद्धति	L	T	P
3.1	पंडित विष्णु नारायण भातखण्डे स्वर लिपि		2	
3.2	ताल लिपि पद्धति		1	
3.3	नाद की परिभाषाएं		1	
3.4	नाद की विशंषताएं		1	
3.5	हिन्दुस्तानी संगीत पद्धति के सिद्धांत 40		1	

ईकाई –4	ताल परिचय	L	T	P
4.1	ताल, लय		1	
4.2	मात्रा, विभाग			2
4.3	सम, ताली, खाली			2
4.4	आवर्तन, ताल का महत्व		1	2
4.5	सरगम, लक्षणगीत, छोटा ख्याल			2

ईकाई –5	राग परिचय	L	T	P
5.1	रागयमन-		1	2
5.2	बिलावल			2
5.3	खमाज का सम्पूर्ण परिचय			1
5.4	तालदादरा-			1
5.5	कहरवा, त्रिताल का सम्पूर्ण परिचय मात्रा), बोल, विभाग एवं चिन्ह(		1	2
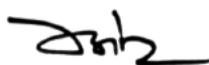
प्रथम वर्ष प्रायोगिक

1/ तक अलंकारों का गायन 10 से 1

2/ राग यमन, बिलावल, खमाज में आरोह, अवरोह, पकड एवं सरगम का गायन एवं लक्षणगीत गायन

3/ राग यमन, बिलावल, खमाज में छोटा ख्याल गायन (श्रायी अंतरे सहित)

4/ सैद्धान्तिक प्रश्न पत्र में दिये गये तालों को हाथ से ताली, खाली, देकर प्रस्तुति । दादरा), कहरवा, त्रितालगीत (, गजल

5/ सैद्धान्तिक प्रश्न पत्र में दिये गये तालों को हाथ से ताली, खाली, देकर प्रस्तुति । दादरा), कहरवा, त्रितालगीत (, गजल, भजन, राष्ट्रगान, राष्ट्रगीत, मध्यप्रदेश गायन, का गायन ष्टस्प) (रण एवं धुन के साथच्चाशब्दो

संदर्भ–

/1राग परिचय 1,2,3, हरिशचन्द्र श्रीवास्तव

/2संगीत विशारद, बसंत

/3क्रमिक पुस्तक मालिका भाग 1, विष्णु नारायण भातखंडे

Co- Curricular- 1

<u>ADA06 (C) ललित कला</u>

उददेश्य

1/ भारतीय कला के मूल सिद्धांतो से छात्रों को परिचित कराना।

2/ छात्रों को दृश्यकला के मूल सिद्धांतो से परिचित कराना।

3/ प्रकृति और जीवन की सुंदरता की सराहना करने के लिए उनकी दृष्टि को समृद्ध कराना।

4/ रेखा, रूप, रंग और बनावट के सरल प्रयोग का परिचय और अभ्यास ।

5/ प्राकृतिक और मानव निर्मित वस्तुओं के विभिन्न रूपों का अभ्यास ।

6/ भारतीय लोक चित्रकला - गोंड चित्रकला, वरली चित्रकला और मधुबनी चित्रकला का परिचय और अभ्यास।

शिक्षण के परिणाम

1/ भारतीय चित्रकला के छह अंगों और दृश्य कला के मूल सिद्धांतों की समझ ।

2/ रेखा, रूप, रंग और बनावट के सरल और भिन्न उपयोग की समझ ।

3/ भारतीय लोक कलाओं की समझ-उनके उद्देश् माध्यम,लोक जीवन और लोक कथाओं की जानकारी ।

4/ भारतीय लोककला के रूपांकनों की समझ।

5/ विभिन्न भारतीय लोककलाओं की विशेषताओं में अंतर करना और उनकी पहचान ।

6/ प्राकृतिक और मानव निर्मित वस्तुओं के विभिन्न रूपों का अध्ययन करके कला के नए रूप को बनाने की प्रेरणा ।

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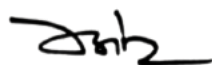
ईकाई 1 -		L	T	P
	भारतीय चित्रकला के छह अंग			
1.1	रूपभेद		1	
1.2	प्रमाण		1	1
1.3	भाव		1	1
1.4	लावण्य योजना और सादृश्य		1	1
1.5	वार्णिक भंगा			1

ईकाई- 2		L	T	P
	दृश्य कला के मूल तत्व			
2.1	रेखा		1	
2.2	रूप/आकार		1	2
2.3	रंग		1	
2.4	बनावट		1	
2.5	अंतराल		1	

ईकाई- 3		L	T	P
	संयोजन के सिद्धांत			
3.1	एकता		1	
3.2	सामजस्य			2
3.3	संतुलन		1	
3.4	प्रभाविता			2
3.5	प्रवाह (ताल)		1	2

ईकाई-4		L	T	P
	भारतीय लोक चित्रकला का परिचय –			
4.1	गोंड चित्रकला- इतिहास और उत्पत्ति		1	2
4.2	प्रयुक्त सामग्री		1	2
4.3	विषय(थीम) और डिजाइन		1	2

ईकाई- 5		L	T	P
	वरली चित्रकला और मधुबनी चित्रकला			
5.1	वरली और मधुबनी चित्रकला- इतिहास और उत्पत्ति		1	2
5.2	प्रयुक्त सामग्री		1	2
5.3	विषय(थीम) और डिजाइन		1	2

ललित कला प्रायोगिक
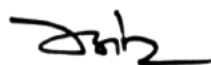
/1 विभिन्न माध्यमों में रेखा, रूप, रंग और बनावट का सरल प्रयोग

/2 प्रकृति और वस्तु अध्ययन

/3 गोंड पेंटिंग   मधुबनी / वारली पेंटिंग /

<u>संदर्भ–</u>

1- Fundamentals Of Plastic Art रूपप्रद कला के मूलाधार - Dr. R.A. Aggrawal, International Publishing House
2- Fundamental Of Visual Art - Mukesh Kumar, Doaba Publications
3- Introduction to Indian Art Part II - NCERT
4- Unique Art of Warli Paintings - Sudha Satyawadi, D.K. Print World Ltd
5- Madhubani Art: Indian Art Series - Bharti Dayal, Niyogi Books
6- Indian Folk Arts and Crafts - National Book Trust

(NMS02) Digital Art and Graphic Design

| Theory | - | Practical | 30 | Internal | 10 | Credits | 2 |

Course Objectives

1. To Understand visual art and graphic
2. To understand typography
3. To understand and use the principles of digital art
4. To explain the various forms of layout
5. Understanding critical thinking

Course Outcomes

1. Differentiate between digital art and design
2. Analysis and use of types in combination for design making
3. To understand the various tools and its uses in Photoshop
4. Assess the basics of layout and type used
5. To analyze the theory of critical thinking and implement the idea generated

Unit 1	Introduction	L	T	P
1.1	Evolution and early history of Digital art (Lecture, Discussion, Presentation)	-	1	1
1.2	Difference between graphic art and graphic design (Lecture, Discussion, Presentation)	-	-	1
1.3	Transition of visual digital art to commercial digital art (Lecture, Discussion, Presentation)	-	-	1
1.4	Principles of Digital art (Lecture, Discussion, Presentation)	-	-	1
1.5	Types of Digital Art and types of Digital design (Lecture, Discussion, Presentation)	-	-	1

Unit 2	Key Elements –Type	L	T	P
2.1	The evolution of typography (Lecture, Discussion, Presentation)	-	1	1
2.2	The Anatomy of Typography and Legibility (Lecture, Discussion, Presentation)	-	-	1
2.3	The Typographic Grid (Lecture, Discussion, Presentation)	-	-	1
2.4	Syntax and Communication (Lecture, Discussion, Presentation)	-	-	1
2.5	Typography on Screen (Lecture, Discussion, Presentation)	-	-	1

Unit 3	Key Elements –Learning Software	L	T	P
3.1	Basics of Colors and color theory (Lecture, Discussion, Presentation)	-	1	1
3.2	Understanding different color gamut (Lecture, Discussion, Presentation)	-	-	1
3.3	Introduction to Photoshop (Lecture, Discussion, Presentation)	-	-	1
3.4	Tools- pen tool, smudge tool, blur tool, eraser tool, color selection, color fill, grid, erasing background, importing images, borders (Lecture, Discussion, Presentation)	-	-	1
3.5	File saving formats (Lecture, Discussion, Presentation)	-	-	1

Unit 4	Key Elements –Layout and Composition	L	T	P
4.1	Basics of composition (Lecture, Discussion, Presentation)	-	1	1
4.2	Form, spaces and symmetry/Asymmetry/ Contrast (Lecture, Discussion, Presentation)	-	-	1
4.3	Basic principles of design layout (Lecture, Discussion, Presentation)	-	-	1
4.4	Creating layout for print media (Lecture, Discussion, Presentation)	-	-	1
4.5	Promotional layouts for social media (Lecture, Discussion, Presentation)	-	-	1

Unit 5	Design Thinking	L	T	P
5.1	Research (Lecture, Discussion, Presentation)	-	1	1
5.2	Developing the creative brief (Lecture, Discussion, Presentation)	-	-	1
5.3	Concept development (Lecture, Discussion, Presentation)	-	-	1
5.4	Selling and executing the concept (Lecture, Discussion, Presentation)	-	-	1
5.5	Reverse Engineering (Lecture, Discussion, Presentation)	-	-	1

Practical/Projects/Assignments:
1. To draw and define the Typographical elements.
2. From various advertisement materials collect and define the type of visual images and color combination specifically used.
3. Take various material ex. stationary papers, Newspaper, Magazines etc. and find out the ideas for layout selected and grid system adopted.
4. To design an advertising material (as asked from the subject teacher with specific objective) and note the steps used while finalizing the goal.
5. To read and understand any two case studies of failed design product and hence reverse engineered.
6. Use principles of digital art and create layouts for social media

Suggested Readings:
1. Color Management: A comprehensive guide for Graphic Designers Publisher: Allworth, ISBN-13:978-1581159165
2. Art and Print production by N.N. Sarkar Publisher: Oxford University Press ISBN-13:978-0198085560
3. Design Thinking for Visual Communication (Basics Design) by Gavin Ambrose Publisher: Bloomsbury Visual Arts ISBN-13:9781350106222
4. The Complete Graphic Designer (NIPB): A Guide to Understanding Graphics and Visual Communication by Ryan Hembree Publisher: Rockport ISBN-13:978-1592535026
5. Introduction to Graphic Design, A guide to thinking, process & style by Bloomsbury Publishing: ISBN-781472589309, 1472589300
6. Basics of Design: Layout and typography for beginners: Published by Cengage Learning: ISBN-9781401879525, 1401879527

E-Resources:
1. https://www.unboundvisualarts.org/what-is-visual-art/
2. https://en.wikipedia.org/wiki/Typography
3. https://en.wikipedia.org/wiki/Color_vision
4. https://visme.co/blog/layout-design/
5. https://www.flux-academy.com/blog/why-is-layout-important-in-graphic-design
6. https://think.design/user-design-research/critical-thinking/
7. https://www.canva.com

Completion of Second Year: Diploma in Multimedia (80 Credits)

Semester III

(NMC05) Audio Editing using Audacity

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. Introduce basic Digital audio concepts and terminology
2. To understand the basic working of audio production equipment
3. To understand the Software for digital audio recording and editing
4. To learn significance of effective audio productions
5. To develop technical skills for audio production

Course Outcomes
1. Understand the various theoretical and practical aspects of audio
2. Identify audio production equipment and its application
3. Implement Strategies for digital audio recording and editing
4. Assess Skills for audio productions and use of file formates
5. Generate technical skills for using editing tools and techniques of audio

Unit 1	Introduction of Digital Audio	L	T	P
1.1	Introduction to Audio components, Sound and its Attributes, Effect and use of in multimedia products (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.2	Analog V/s Digital sound (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.3	Basics of digital Sounds - Sampling, Frequency, Sound Depth, Channels (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
1.4	Advantages of Digital Audio (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
1.5	Audio Input/output devices (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 2	Introduction of Microphones & Audio Cable & Connectors	L	T	P
2.1	Types of microphone (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.2	Types of microphone construction & pickup pattern (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.3	Audio cable, different types of audio connectors (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.4	Portable audio Mixer for outdoor shoot (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.5	Audio console for multi camera production (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 3	Audio Production	L	T	P
3.1	Selection and use of different microphones and other in-camera recording modes (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.2	Indoor audio production, outdoor/ field audio production (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.3	Portable audio mixer, audio console (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.4	Field recording, sound recorders, audio mixer (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.5	Single camera production sound recording and multi camera production sound recording (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 4	Audio File Formats and Editing	L	T	P
4.1	Types of Audio file formates, Conversion of audio files, Audio File Compression - Compressed file formats (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.2	Advantages & Disadvantages of compressed files, Audio file formats: Track, WAV, MP3 etc. MIDI files (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.3	Basic Editing in Adobe Audition editing software: Overview of Editing Tools - Selection, Cutting and Copying of Data, Pasting of Data, Paste Special, Multiple Paste, Deleing etc. Editing the Cut lists (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.4	Audio Effects in Sound Forge- Echo Effects, Pitch Effects, Volume Effects, Reverberation Effects, Wave Hammer Effect (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.5	Synthesis, Synthesizing Audio, Sampling, Batch Processing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 5	Audio Post Production	L	T	P
5.1	Foley artist (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.2	create background sound (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.3	Dialog (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.4	Voice over (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.5	Audio effect (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
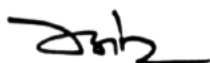
Practical/Projects/Assignments:
1. To create Audio recording for different types of microphone use
2. To create Outdoor/Indoor audio recording
3. To create Audio Advertisements
4. To create Audio Jingles
5. To create Audio PSA(Public Service Announcements)

Suggested Readings:
1. Designing Sound; Andy Farnell; MIT Press, ISBN :20100262014416, 9780262014410
2. Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema; by David Sonnenschein ; ISBN:0941188264 (ISBN13: 9780941188265) ; 2001 by Michael Wiese Productions
3. Digital Audio Editing: Correcting and Enhancing Audio in Pro Tools, Logic Pro, Cubase, and Studio One, Simon LangfordOct 2013, CRC Press
4. Adobe Audition CC Classroom in a Book Paperback – Import, 24 December 2018 by Adobe Creative Team (Author), Maxim Jago (Author)

E-Resources:
1. https://www.bhphotovideo.com/explora/pro-audio/buying-guide/a-guide-to-voice-over-equipment
2. https://training.npr.org/2018/10/31/mixing/
3. https://training.npr.org/2017/01/31/the-ear-training-guide-for-audio-producers/
4. https://helpx.adobe.com/pdf/audition_reference.pdf

(NMC06) Layout Design using InDesign

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To learn the Principles of Design and Page Layout Concepts
2. Understand the concept of page layout in cross media world
3. Understand the tools of Adobe InDesign
4. To Understand the concepts and formats of text
5. To learn advanced features of Adobe InDesign

Course Outcomes
1. Student will be able to Understand the core principles of design
2. Identify Layout and its relevant design elements in cross media
3. Student will be able to identity and work with objects
4. Demonstrate typographic, page layout and document-construction skills
5. Develop Skill to produce print /publications like brochures, magazines

Unit 1	Introduction to Page Layout	L	T	P
1.1	Principles of Design, Golden Rules of Design, Design Elements (Lecture)	1	1	1
1.2	Design Vocabulary, Design Process and Methods (Lecture, Practice)	1	1	1
1.3	Page Layout concepts, Layout and Page Design Fundamentals (Lecture, Practice)	1	1	1
1.4	Layout Process Golden Section and harmonious page formats (Lecture, Practice)	1	1	1
1.5	Design Grid, Types of Page Layout (Lecture)	1	1	1

Unit 2	Page Layout in Cross Media World	L	T	P
2.1	Interactive ebooks (Lecture, Practice)	1	1	1
2.2	Scrolling Webpages (Lecture, Practice)	1	1	1
2.3	Interactivity, Sound, Animation (Lecture, Practice)	1	1	1
2.4	Movies, Slideshows (Lecture, Practice)	1	1	1

2.5	Colour Theory (Lecture, Practice)	1	1	1

Unit 3	Adobe InDesign- 1	L	T	P
3.1	Introducing the Workspace (Lecture, Practice)	1	1	1
3.2	Getting to Know InDesign (Lecture, Practice)	1	1	1
33	Setting Up a Document and Working with Pages (Lecture, Practice)	1	1	1
3.4	Working with Objects (Lecture, Practice)	1	1	1
3.5	Flowing Text (Lecture, Practice)	1	1	1

Unit 4	Adobe InDesign- 2	L	T	P
4.1	Editing Text (Lecture, Practice)	1	1	1
4.2	Working with Typography (Lecture, Practice)	1	1	1
4.3	Working with Colour (Lecture, Practice)	1	1	1
4.4	Working with Styles (Lecture, Practice)	1	1	1
4.5	Importing and Modifying Graphics (Lecture, Practice)	1	1	1

Unit 5	Adobe InDesign- 3	L	T	P
5.1	Creating Tables (Lecture, Practice)	1	1	1
5.2	Working with Transparency (Lecture, Practice)	1	1	1
5.3	Printing and Exporting (Lecture, Practice)	1	1	1
5.4	Creating Adobe PDF Files with Form Fields (Lecture, Practice)	1	1	1

5.5	Creating a fixed-Layout epub (Lecture, Practice)	1	1	1

Practical/Projects/Assignments:
1. Preparation of public interest posters (Ex. World Peace Day/Child Labour Day/Anti-Ragging or Drug Addiction or Smoking.
2. Preparation of Press Ad of given product digitally.
3. Preparation of media layout (Ex. Banner) and selection of art materials related with Multimedia.
4. Preparation of visual design on particular advertising media, publicity using digital platform.
5. Preparation of Corporate Profiles (Ex. Logo, Letter Head, Visiting Card, Envelope, Brochure) using Adobe InDesign

Suggested Readings:
1. Art and Print Production N.N.Sarkar, Oxford University Press; 2 edition (13 May 2013), ISBN-10:
   0198085567, ISBN-13: 978-0198085560
2. Adobe InDesign CC Classroom in a Book, Kelly Kordes Anton & Tina DeJarld, Pearson Education; First edition (15 June 2018) ISBN-10: 935286901X, ISBN-13: 978-9352869015
3. Universal Principles of Design; by William Lidwell , Kritina Holden, Jill Butler, Publish by : Rockport , 2010, January 1, 2010; ISBN 978-1631590405
4. Deconstructing Product Design: by William Lidwell , Gerry Manacsa; Publish by : Rockport November 1, 2009; ISBN: 161673602X, 9781616736026

E- Resources:
1. Design and layout, graphic design, web design accessed at http://websitetips.com/layout/
2. Adobe InDesign CC Tutorial accessed at https://www.tutorialspoint.com/adobe_indesign_cc/index.html
3. InDesign tutorials accessed at https://helpx.adobe.com/in/indesign/tutorials.html
4. InDesign Tutorials and Essential Tips accessed at https://redokun.com/blog/indesign-tutorial
5. Adobe InDesign Tutorial accessed at https://www.javatpoint.com/adobe-indesign

(NMC07) 2D Animation using Flash

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To learn the basic elements and process of Animation
2. To understand the basics of Adobe Flash tools
3. To understand the twining and coloring option of Flash
4. To understand symbols, effects and filters
5. To Impart Knowledge of Action Script

Course Outcomes
1. Recognize the types of Animation
2. To identify the workspace, tools and timeline of Flash
3. Implement Drawing Module of Adobe Flash and get Familiar with Twining
4. Identify the symbols, filters and effects of Adobe Flash
5. Apply Action Script, Buttons and Control Over Their Flash Contents with Scripts

Unit 1	Introduction	L	T	P
1.1	History of Animation (Lecture, Discussion)	1	1	1
1.2	12 Principles of Animation (Lecture, Discussion, Assignment)	1	1	1
1.3	Type of Animation (Lecture, Discussion, Assignment)	1	1	1
1.4	Vector Graphics (Lecture, Discussion, Assignment)	1	1	1
1.5	Animation Software and Uses Managing the Workspace (Lecture, Discussion)	1	1	1

Unit 2	Flash Tools	L	T	P
2.1	Selection Tool, Free Transform, Lasso Tool, Pen Tool, Text Tool Line and Rectangle Tool, Pencil Tool (Lecture, Practice, Assignment)	1	1	1
2.2	Brush tool- Brush Mode, Ink Bottle and Paint Bucket Tool, Eyedropper and Eraser Tool (Lecture, Practice, Assignment)	1	1	1
2.3	Timeline and Key frames, Frame-by-frame Animation, Importing Files (Lecture, Practice, Assignment)	1	1	1

| 2.4 | Grouping Elements, Modify Objects (Lecture, Practice, Assignment) | 1 | 1 | 1 |
| 2.5 | Working with Layers- Creating New Layers and Deleting Layers, Lock and Hide Layers (Lecture, Practice, Assignment) | 1 | 1 | 1 |

Unit 3	Tweening and Colors	L	T	P
3.1	Tweening- Classic Tween, Motion Tween, Shape Tween (Lecture, Practice, Assignment)	1	1	1
3.2	Color in Flash- Swatches Panels (Lecture, Practice)	1	1	1
3.3	Color Models RGB, HSV (Lecture, Assignment)	1	1	1
3.4	Color Gradients, Alpha channel (Lecture, Practice, Assignment)	1	1	1
3.5	Flash Bitmap Tracing, Motion Presets (Lecture, Practice, Assignment)	1	1	1

Unit 4	Symbols, Effect and Filters	L	T	P
4.1	Working With Symbols- Graphic Symbols, Movie Clip Symbols, and Button Symbols (Lecture, Practice, Assignment)	1	1	1
4.2	Masking, Flash inverse kinematics (Lecture, Discussion, Practice)	1	1	1
4.3	Flash Effects (Lecture, Discussion, Practice)	1	1	1
4.4	Flash Filters (Lecture, Discussion, Practice)	1	1	1
4.5	Flash sound- sound formats supported by Flash, Add sound (Lecture, Discussion, Practice)	1	1	1

Unit 5	Action Script	L	T	P
5.1	Action Script 2.0 and 3.0 (Lecture, Practice)	1	1	1
5.2	Basic Programming Concepts – Variable, Constants (Lecture, Discussion, Practice)	1	1	1

5.3	Data Types, Operators (Lecture, Practice)	1	1	1
5.4	Conditional Statement and Looping Statement (Lecture, Discussion, Practice)	1	1	1
5.5	Creating Buttons & Setting Button States (Lecture, Discussion, Practice)	1	1	1
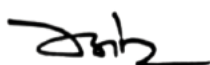
Practical /Project/Assignments:
1. Move Object From One Place To Another, Change Color of Object
2. Animate Rain Using Flash
3. Animate Butterfly Using Transform Tool
4. Flash Analog Clock Using Action Script3.0
5. Create Artwork Using Pen Tool
6. Create Play, Pause, Stop Button Using Action Script

Suggested Readings:
1. Sheila Graber, "Animation: A Handy Guide", Barron Publication, 2009
2. Satish Jain, "Adobe Flash Professional CS6 Training Guide", BPB Publications, 2016
3. Ellen Finkelstein and GurdyLeete,"Flash CS3 for Dummies", Dummies, 2007
4. William Heldman , "Adobe Flash Professional CS6 Essentials"Sybex; 1 edition, 2012

E-Resources:
1. http://edutechwiki.unige.ch/en/Flash_frame-by-frame_animation_tutorial
2. http://saintangelos.com/studentdesk/Download/FLASH%20.pdf
3. http://www.flashkit.com/tutorials/
4. http://archive.svsd410.org/directory/_dockeryj/conferences/flash/animation.html

(NMG01) Script Writing and Storyboarding

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives

1. Introducing writing, its purpose and different types
2. Identifying basics forms of writing for various media
3. Perceive the contribution of screenplay in script writing
4. Understanding screenplay, plot & style in script writing
5. Introduce storyboard and its effectiveness

Course Outcomes

1. Generate scripts in different formats
2. Categorize different forms of writing for various mediums
3. Construct and design screenplay for a short film
4. Construct and design screenplay for animation or film genre
5. Author storyboard and visualize for a short story

Unit 1	Introduction to Writing	L	T	P
1.1	Purpose and types of writing (Lecture, Discussion)	1	1	1
1.2	Forms of writing: Prose, Poetry, Letters, Essay (Lecture, Discussion, Practice)	1	1	1
1.3	News, Article, Feature Review, Film Review (Lecture, Discussion)	1	1	1
1.4	Memoir, Travelogue (Lecture)	1	1	1
1.5	Writing a Play, Story and Novel (Lecture, Assignment)	1	1	1

Unit 2	Introduction to Writing for Different Media	L	T	P
2.1	Basic principles of writing for Film and Television (Lecture, Discussion)	1	1	1
2.2	Basic principles of writing for animated movies (Lecture, Discussion, Practice)	1	1	1
2.3	Concepts of writing for Multimedia and Animation Movies (Lecture, Discussion, Practice, Assignment)	1	1	1
2.4	Basics of writing for Animation (Lecture, Discussion, Practice)	1	1	1

2.5	Basics of writing for Game Design (Lecture, Practice)	1	1	1

Unit 3	**Screenplay Basics – Theme and Plot**	**L**	**T**	**P**
3.1	Film Genres: Drama, Melodrama (Lecture, Discussion)	1	1	1
3.2	Comedy, Action, Tragedy, Fantasy etc. (Lecture, Discussion, Practice)	1	1	1
3.3	Theme and Plot (Lecture, Practice)	1	1	1
3.4	Beginning, middle and end, Location (Lecture, Discussion, Practice)	1	1	1
3.5	Music, From Scenes to Sequences (Lecture, Discussion, Practice)	1	1	1

Unit 4	**Screenplay Basics – Types & Structure**	**L**	**T**	**P**
4.1	Screenplay, Shooting Script, AV Script (Lecture, Discussion)	1	1	1
4.2	Concept- Goals and Objectives (Lecture, Discussion, Practice)	1	1	1
4.3	Structure- Flashback, Conflict, Climax (Lecture, Discussion, Practice)	1	1	1
4.4	Style- Fade in, Scene Heading, Character (Lecture, Practice, Assignment)	1	1	1
4.5	Action, Dialogue, Transition (Lecture, Assignment)	1	1	1

Unit 5	**Introduction to Storyboard**	**L**	**T**	**P**
5.1	Need and Importance of Storyboard (Lecture, Practice, Assignment)	1	1	1
5.2	Formats of Storyboard, Planning of visual storytelling (Lecture, Practice, Assignment)	1	1	1
5.3	Shot Types, Continuity, Transitions and sequencing (Lecture, Discussion, Practice)	1	1	1
5.4	Introduction to Popular Storyboard software (Lecture, Discussion, Practice)	1	1	1

5.5	Storyboard Techniques: Short Film and Animation (Lecture, Discussion, Practice)	1	1	1

Practical / Projects/Assignments:
1. Exercises of scripting on different format
2. Write a script for Television
3. Write a five minutes story on any current issue.
4. Prepare a storyboard for a 2 min story with 10 to shots
5. Write a Film Review on any one film
6. Write a script for a travelogue

Suggested Readings:
1. Screenplay: The Foundations of Screenwriting: Syd Field
2. Making a Good Script Great: A Guide for Writing & Rewriting: Linda Seger
3. Script Writing: How to Write a Screenplay: Aishley Foley
4. From Word to Image: Storyboarding and the Filmmaking Process: Marcie Begleiter
5. Animation - The Art of Layout and Storyboarding: Mark Byrne
6. Storyboarding: Turning Script to Motion: Stephanie Torta and Vladimir Minuty
7. पटकथा लेखन: एक परिचय मनोहर श्याम जोशी

E-Resources:
1. Namita Kabilas, The Nine Key Secrets of Writing a Good Screenplay (E-Book): 2018
2. Jurgen Wolff &Kerry Cox Successful Scriptwriting: How to write and pitch winning scripts for movies, sitcoms, soaps, serials and variety shows; https://www.kobo.com/us/en/ebook/successful-scriptwriting-2
3. https://www.studiobinder.com/blog/how-to-write-a-screenplay/
4. https://industrialscripts.com/scriptwriting-guide/
5. https://youtu.be/RQsvhq28sOI
6. https://www.vyond.com/resources/what-is-a-storyboard-and-why-do-you-need-one/

(ADA07) Innovation and Entrepreneurship

| Theory | 30 | Practical | - | Internal | 10 | Credits | 2 |

COURSE OBJECTIVE

- To describe students regarding Entrepreneurship & its Management.
- To explain the students difference between Entrepreneurs & Managers.

- To outline the students about importance of E.D.Programmes.
- To illustrate students Practical problems related to Transportation.
- To determine various Project Appraisal methods to the students.
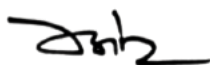
LEARNING OUTCOMES

- Students would be able to develop the concept of Entrepreneurship Management.
- By analyzing the importance of E.D programmes, students would be able to integrate the various factors leading to success of Entrepreneurship.
- Student would be able to summarize various concepts leading to Small Businesses & would learn to integrate them into a concrete Business Approach.
- Applying Transportation concepts would enable the students to find out the Optimum way to solve the problems.

Unit-1	**Entrepreneurship**
1.1	Entrepreneurship: Nature & Scope (Class room lectures & PPT)
1.2	Role & Importance in Indian economy (PPT & class room lectures)
1.3	Traits of Entrepreneurs (PPT)
1.4	Entrepreneurs vs Professional Managers (Role Play, PPT)
1.5	Problems faced by Entrepreneurs (Class room Lectures)

Unit-2	**Environmental analysis**
2.1	Factors affecting External Environment (PPT)
2.2	Significance & Role of Environmental Infrastructure Network (PPT & Class room Lectures)
2.3	Environmental Analysis (class room lectures)
2.4	E.D programmes (E.D.P) (PPT , Class room lectures)
2.5	Problems of E.D.P (Class room Lectures)

Unit-3	**Transportation problems**
3.1	North West Corner method (practical)
3.2	Matrix Minima & VAM Method (practical)
3.3	Degenerating (practical)
3.4	MODI method (practical)
3.5	Assignment Problems

	(practical)

Unit-4	**Project Appraisal**
4.1	Project & Project Reports (PPTs)
4.2	Search for Business Idea (PPTs & Class room Lectures)
4.3	Projects& Classifications : Idea into Reality (PPTs)
4.4	Identification of Projects, Project Design & Network Analysis (PPTs &group discussions)
4.5	Project Appraisal & Plant Layout (Class Room Lectures)

Unit-5	**Types of organizations**
5.1	Small Industry Setup (Class room Lectures)
5.2	Types of Organization: Sole Proprietorship, Partnership , Joint Stock Company, Co-operative Organization, Merits , Limitations , Suitability (PPTs & class room lectures)
5.3	Organizational Locations

		(Role Play , Class room lectures)
	5.4	Steps in Starting a Small industry (PPTs)
	5.5	Incentives & subsidies available , Export Possibilities (PPTs)

Practical / Projects / Assignments :

- Case Studies: Related to real life entrepreneurs (Kabadwala.com)
- Practical solving of transportation problems.

Suggested Readings :
- Burns, Paul.(2016). Entrepreneurship & Small Business Development. New Delhi: Palgrave Macmillan Publishers
- Chakraborty, K.(2006). Entrepreneurship & Small Business Development. New Delhi: Mittal Publishers
- Charantimath, Poornima.(2005). Entrepreneurship & Small Business Development. New Delhi: Pearson education
- Khanka, S.K. (2006). Entrepreneurial Development . New Delhi: S.Chand publishing
- Nirjhar, A. (2011) . Entrepreneurial Development. New Delhi: Sanbun Publishers

E-resources:
- https://www.slideshare.net/esmatullahamini1/entrepreneurial-developmentbook-pdf
- http://ncert.nic.in/ncerts/l/lebs213.pdf
- http://164.100.133.129:81/econtent/Uploads/Entrepreneurship_Development.pdf

Semester IV

(NMC08) Video Editing using Premiere & FCP

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. Comprehend basic Video Editing types, terminology and concepts
2. To acquire a basic working understanding of video editing equipments and setup
3. Understand pipeline of nonlinear video-editing application (Adobe Premiere Pro)
4. Understand pipeline of nonlinear video-editing application (Final Cut Pro)
5. Acquire knowledge of color correction and grading

Course Outcomes
1. Recognize types and process of different video editing
2. Identify theoretical, aesthetic and technical aspects of video editing
3. Perform basic editing function of Adobe Premiere Pro
4. Perform basic editing function of Final Cut Pro
5. Demonstrate use of color grading and color correction for a video production

Unit 1	Basic Concepts of Video Editing	L	T	P
1.1	Concept of Video Editing : Need and Importance, Manipulating Time and Space with Video Editing (Class room lecture, Video Demonstration and PPT)	1	1	1
1.2	Principles of Video Editing (Action, Sequence, Cross cutting, Parallel, Continuity) (Class room lecture, Video Demonstration and PPT about basic principles*)*	1	1	1
1.3	Linear and Non-Linear Editing, Offline and Online Editing (Class room lecture and PPT)	1	1	1
1.4	L-cut, J-cut, Jump cut, Match cut, Invisible cut Superimposition, Compositing, Keying (Class room lecture, Video Demonstration and PPT)	1	1	1
1.5	Basic Editing techniques (Continuity, matching, overlapping, composition, Rule of 180 Degree) (Class room lecture, Video demonstration, assignments and PPT)	1	1	1

Unit 2	Editing Equipments and Setup	L	T	P
2.1	Editing equipment - recorder, player, video switcher, vision mixer, audio mixer, monitor, and speaker (Class room lecture, PPT and demonstration in studio)	1	1	1
2.2	NLE Editing Setup (VTR, Fire wire, DV Tape, SD Card, Audio Monitor, System, Software's) (Class room lecture, demonstration and PPT)	1	1	1
2.3	Import & Capturing process (Import Setting, Sequence Setting, Scratch disk setting) (Class room lecture and demonstration)	1	1	1

2.4	Logging , Digital Video Log sheet (Class room lecture, demonstration and PPT)	1	1	1
2.5	Edit Decision List, Aspect Ratio, Resolution, Video file formats (MP4, AVI, MOV, FLV, 3GP, WMV etc) (Class room lecture, demonstration and PPT)	1	1	1

Unit 3	Video Editing using Adobe Premiere	L	T	P
3.1	Introduction to Adobe Premiere (Class room lecture, demonstration and PPT)	1	1	1
3.2	Project settings, Tool and Interface (Class room lecture, demonstration and PPT)	1	1	1
3.3	Video Transitions and their applications Tracks, Video Effects and their applications (Class room lecture, demonstration and PPT)	1	1	1
3.4	Motion and Key-frames, Titling & Graphics (Class room lecture, demonstration and PPT)	1	1	1
3.5	Integrating Photoshop with Premiere, Export Setting & Publishing Options (Class room lecture, demonstration and PPT)	1	1	1

Unit 4	Video Editing using Final Cut Pro	L	T	P
4.1	Introduction to Final Cut Pro & Mac Interface (Class room lecture, demonstration and PPT)	1	1	1
4.2	Project settings, Tool and Interface (Class room lecture, demonstration and PPT)	1	1	1
4.3	Video Transitions and their applications Tracks, Video Effects and their applications (Class room lecture, demonstration and PPT)	1	1	1
4.4	Motion and Key-frames, Titling & Graphics (Class room lecture, demonstration and PPT)	1	1	1
4.5	Export Setting & Publishing Options (Class room lecture, demonstration and PPT)	1	1	1

Unit 5	Color Correction, Grading & Publishing	L	T	P
5.1	Importance of Color Theory in Video, Correction and Grading (Class room lecture, PPT, demonstration and assignments)	1	1	1
5.2	Options available in Premiere(Lumetri) and Final Cut Pro(Color Board), LUT Presets(Look Up Table) (Class room lecture, demonstration and assignments)	1	1	1
5.3	Introduction to Color Grading Options – DaVinci Resolve, Red Giant Magic Bullet etc (Class room lecture, PPT, demonstration and assignments)	1	1	1
5.4	Exporting project (Export pre – sets, Custom pre set, Frame rate, frame size, pixel, bit rate and audio format, work bar selection and entire timeline)	1	1	1

	(Class room lecture, PPT, demonstration and assignments)			
5.5	Publishing for different platforms (Class room lecture, PPT, demonstration and assignments)	1	1	1

Practical/Projects/Assignments:
1. Student will create a Infographic PSA in Premiere
2. Student will create a Commercial promo in Premiere
3. Student will create a logo animation in Premiere
4. Student will create a Infographic PSA in FCP
5. Student will create a Commercial promo in FCP
6. Student will create a logo animation in FCP

Suggested Readings:
1. Handbook of Television Production: Herbet Zettl. 7th ed. Wadsworth
2. Video Basic Workbook. Herbert Zettl. 2nd ed. Wadsworth
3. The Technique of Television Production: Gerald Millerson, 12th ed. Focal Press, London, 1990.
4. A Guide to Production Techniques: Nick Dimbleby, Richard Dinberly and Ken Whittington. Practical Media:, Holder & Stoughton, London, 1994.
5. Television Production: Alan Wurtze. 2nd Edition. Mcgraw Hill Book company New York
6. Video Production:Vasuki Belavadi. 2nd Edition, Oxford university press

E-Resources:
1. https://helpx.adobe.com/in/support/premiere-pro.html
2. https://helpx.adobe.com/in/premiere-pro/tutorials.html
3. https://www.lynda.com/

(NMC09) Web Design and E-Publishing

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives

1. To introduce basics of web design and the Internet
2. To understand the basic concepts of E publishing
3. To learn various multimedia elements in HTML pages
4. To understand the basics of CSS
5. To learn about Javascript

Course Outcomes

1. Student would have knowledge about Web design process and Internet
2. Student will be able to differentiate traditional and e publishing
3. Student can design HTML pages using various multimedia element
4. Student will be able to create web pages using CSS
5. Student can design dynamic HTML pages using JavaScript

Unit 1	Web Design and Internet	L	T	P
1.1	Web Design Principles, Basic principles involved in developing a web site (Lecture, Discussion, Demonstration)	1	1	1
1.2	Planning process, Rules of web designing, Designing navigation bar (Lecture, Discussion, Demonstration,)	1	1	1
1.3	Page design, Home Page Layout, Design Concept (Lecture, Discussion, Assignment)	1	1	1
1.4	Basics in Web Design, Characteristics of website, Web Standards, Audience requirement (Lecture, Discussion, Demonstration, Assignment)	1	1	1
1.5	A Brief History of the Internet, World Wide Web (Lecture, Discussion, Demonstration, Assignment)	1	1	1

Unit 2	Introduction to E Publishing	L	T	P
2.1	Publishing Concept-History, Definition. Area of Publishing ex. general, educational etc. (Lecture, Discussion, Presentation)	1	1	1
2.2	Traditional book publishing vs. e publishing, Organizational Workflow (Lecture, Discussion, Presentation)	1	1	1
2.3	Editing the text, Creating cover and Design (Lecture, Discussion, Presentation)	1	1	1
2.4	ISBN,ISSN or other registration, Legal aspects and copyright, Marketing (Lecture, Discussion, Presentation)	1	1	1
2.5	Application advantage and disadvantage (Lecture, Discussion, Presentation)	1	1	1

Unit 3	HTML	L	T	P
3.1	Introduction to HTML, Elements of HTML (Lecture, Discussion, Demonstration)	1	1	1
3.2	HTML Documents, Basic structure of an HTML document, Working with Text (Lecture, Discussion, Practice)	1	1	1
3.3	Working with Lists, Tables and Frames, Creating an HTML document, Mark-up Tags (Lecture, Discussion, Practice, Assignment)	1	1	1
3.4	Heading-Paragraphs, Line Breaks, Working with Hyperlinks, Images and Multimedia (Lecture, Discussion, Practice)	1	1	1
3.5	HTML Tags, Working with Forms and Controls (Lecture, Discussion, Practice, Assignment)	1	1	1

Unit 4	Cascading Style Sheets (CSS)	L	T	P
4.1	Introduction to Cascading Style Sheets, Concept of CSS, Types of CSS, Creating Style Sheet, CSS Properties (Lecture, Discussion, Practice, Assignment)	1	1	1
4.2	CSS Styling (Background, Text Format, Controlling Fonts), Working with block elements and objects (Lecture, Discussion, Practice)	1	1	1
4.3	Working with Lists and Tables, CSS Id and Class, Box Model (Introduction, Border properties, Padding Properties, Margin properties) (Lecture, Discussion, Practice, Assignment)	1	1	1
4.4	CSS Advanced (Grouping, Dimension, Display, Positioning, Floating, Align, Pseudo class, Navigation Bar, Image Sprites, Attribute sector) (Lecture, Discussion, Practice, Demonstration)	1	1	1
4.5	CSS Color, Creating page Layout and Site Designs (Lecture, Discussion, Practice)	1	1	1

Unit 5	JavaScript	L	T	P
5.1	JavaScript Introduction, Variable declaration, Operators (Lecture, Discussion, Demonstration)	1	1	1
5.2	Control Statements, Error Handling, Understanding arrays (Lecture, Discussion, Practice, Demonstration)	1	1	1

5.3	Function Declaration, Built In Functions (Lecture, Discussion, Practice)	1	1	1
5.4	Standard Date and Time Functions, HTML Document object Model (Lecture, Discussion, Practice, Assignment)	1	1	1
5.5	Working with HTML form and its elements (Lecture, Discussion, Assignment, Practice)	1	1	1
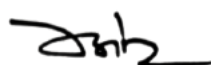
Practical/Projects/Assignments:
1. To create a simple html file to demonstrate the use of different tags.
2. To create an html file to link to different html pages which contains images, tables, and also link within a page.
3. To create an html page with different types of frames such as floating frame, navigation frame & mixed frame.
4. To create a registration form as mentioned below.
   Procedure: Create an html page named as "registration.html"
   ▪ set background colors
   ▪ use table for alignment
   ▪ provide font colors & size
5. To write a JavaScript program to define a user defined function for sorting the values in an array.
6. To create an html page to explain the use of various predefined functions in a string and math object in JavaScript.
7. To create an html page to demonstrate exception handling in JavaScript.
8. To display the calendar using JavaScript code by getting the year from the user.
9. To create an html registration form and to validate the form using JavaScript code.
10. To create an html file to open a new window from the current window using JavaScript.

Suggested Readings:
1. Steven M. Schafer, "HTML, XHTML, and CSS Bible, 5ed", Wiley India
2. John Duckett, "Beginning HTML, XHTML, CSS, and JavaScript", Wiley India
3. Ian Pouncey, Richard York, "Beginning CSS: Cascading Style Sheets for Web Design", Wiley India
4. Kogent Learning, "Web Technologies: HTML, Javascript", Wiley India
5. Web Technologies, Black Book, Dreamtech Press
6. HTML 5, Black Book, Dreamtech Press
7. The Multiplatform Publishing Strategy Handbook , Mequoda Handbooks, 2004
8. Digital Printing On demand Printing- Howard M. Fen ten, Frank J. Romano, Publisher: Printing Industries Press; 2 edition (March 1997)
9. Handbook of Print media: Technologies and production methods -HelmntKippahan Publisher: Springer; 2001 edition (September 21, 2001) ISBN-10: 354067326
10. Epstein, Jason. Book Business: Publishing Past, Present, and Future.
11. Art and Print Production - N.N Sarkar.

E- Resources:

1. HTML Tutorial accessed at https://www.w3schools.com/html
2. CSS Tutorial accessed at https://www.w3schools.com/css
3. JavaScript Tutorial accessed at https://www.w3schools.com/js
4. https://learn.marsdd.com/article/e-publishing/
5. http://www.insightmedia.info/reports/2010ebr_details.php
6. http://www.mequoda.com/free-reports/multiplatform-publishing
7. https://www.w3.org/2014/Talks/0529-NYC-IH/Talk.pdf

(NMC10) Social Media

Theory	80	Practical	-	Internal	20	Credits	5

Course Objectives
1. To introduce basic concepts of Social Media
2. To understand the common social media practices
3. Correlate the Uses and Strategies for Social Media
4. To understand the significance of Soft Skills for Social Media
5. To understand the significant technical skills for Social Media

Course Outcomes
1. Student will have clear understanding of Social Media Concepts
2. Student will identify the best practices of Social Media
3. Student will have critical thinking to understand the strategies of Social Media Platforms
4. Student would have acquired analytical reasoning for soft used in Social Media
5. Student would have obtained technical skills to use Social Media

Unit 1	Introduction to Social Media	L	T	P
1.1	Social Media Definition, Introduction to Social Media Environment (Lecture, Discussion, Practical)	2	1	-
1.2	Basic Uses of Social Media. Introduction to New Media and Social Media (Lecture, Participation)	2	1	-
1.3	Traditional Media Versus New Media, New Media as a Communication Tool (Lecture, Discussion, Practical)	2	1	-
1.4	Social Media Communication Platforms, Pros and Cons of Using these Platforms (Lecture, Discussion)	2	1	-
1.5	Types of Social Media Platforms: Document Sharing, Forum, Quora, Video, Pictures, Bookmarking, Podcast, Gaming (Lecture, Quiz)	2	1	-

Unit 2	Social Media and its Practice	L	T	P
2. 1	Technologies of Social Media, Tools and Platforms of Social Media (Lecture, Discussion, Practical)	2	1	-
2.2	Collaborative Projects and Open Authoring, Content Communities, Social Networking (Lecture, Quiz, Assignment)	2	1	-
2.3	Professional Community on Social Media Through LinkedIn, Interface, Effective Use of LinkedIn (Lecture, Assignment)	2	1	-

| 2.4 | Digital Culture and Digital Identity, User Generated Content
(Lecture, Discussion, Practical) | 2 | 1 | - |
| 2.5 | Wiki, Blogs, YouTube, Participatory Culture and Social Media, Citizen Journalism
(Lecture, Assignment) | 2 | 1 | - |

Unit 3	Uses and Strategies for Social Media	L	T	P
3.1	Media Audiences, Strategies for Social Media (Lecture, Assignment)	2	1	-
3.2	E-Commerce , E- Banking and E-Governance Limitations of Social Media (Lecture, Discussion, Practical)	2	1	-
3.3	Cyberspace, Cyber Crime, Hacking, Phishing (Lecture, Discussion)	2	1	-
3.4	Gaming Industry, Online Community Revenues/Monetization (Lecture, Discussion, Practical)	2	1	-
3.5	Impact of Social Media, Social and Culture Implications, Social Media Participation (Lecture, Discussion)	2	1	-

Unit 4	Soft Skills for Social Media	L	T	P
4.1	Online Communities and Soft Skills (Lecture, Discussion)	2	1	-
4.2	Power of Content, Engagement Skills, Virality, Reachability Copyright and Plagiarism (Lecture, Assignment , In Class Exercise)	2	1	-
4.3	Social Media Measurement and Metrics, Blog Contents, Photo blogs, Contents for Social Media (Lecture, Discussion)	2	1	-
4.4	Networking Pages, Increasing Followers, Studying Social Media Sites (Lecture, Discussion, Practical)	2	1	-
4.5	Identifying News Sense in Social Media Contents (Lecture, Discussion)	2	1	-

Unit 5	Technical Skills for Social Media	L	T	P
5.1	Preparing a Blog, Professionalizing Personal Profile (Lecture, Discussion)	2	1	-
5.2	Developing Content Communities, Multimedia for Social Media (Lecture, Discussion)	2	1	-
5.3	Virtual Social World, Instant Bulk Messaging (Lecture, Discussion)	2	1	-
5.4	MOOCS and Online Courses, Online Interactive Sessions (Lecture, Discussion, Practical)	2	1	-
5.5	Social Media Marketing (Lecture, Discussion)	2	1	-
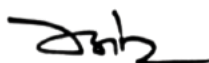
Practical/ Projects/Assignments:
1. Find an example of a "good" and "bad" blog and explain why.
2. Create a blog as diary for academic information and post content.
3. Analyze any 5 FB Pages and discuss in groups.
4. Create a LinkedIn profile for your professional work.
5. Students will create a presentation on safety Guidelines and ethics to use Social Media.
6. Student will explore use of Buy and Sell groups on Face book.

Suggested Readings:

1. LA Lievrouw, S Livingstone, *Handbook of new media: Social shaping and consequences of ICTs,*
2. Flew. Terry, *New Media:* An Introduction, Oxford Higher Education, 3rd, 2007
3. Levinson. Paul, *New New Media,* Allyn & Bacon, 2nd, 2012
4. Lev Manovich, *The language of New Media, MIT Press, 2001*
5. Jenkins, Henry (2006) Convergence Culture: Where Old and New Media Collide. New York London:
6. Hassan Robert, Thomas Julian (2006) The New Media Theory Reader, Open University Press.
7. Terry Darr,Combating Plagiarism, Libraries Unlimited Inc, 2019.
8. Tamra B. Orr,Invention of Facebook and Internet Privacy,Cherry Lake Publishing,2017.
9. Christean Reed, Online Security and Safety, Amazon Asia-Pacific Holdings Private Limited,2018.
10. Dr AmritaBasu,starting a successful blog,Amazon Asia-Pacific Holdings Private Limited,2018.
11. Tim Cigelske,Analytics to Action: A Guide to Social Media Measurement ,Amazon Asia-Pacific Holdings Private Limited,2017

E-Resources:

1. The Virtual Community by Howard Rheingoldhttp://www.rheingold.com/vc/book/9.html
2. http://klangable.com/uploads/books/Mandiberg-theSocialMediaReader-cc-by-sa-nc.pdf.
3. https://catgeb 14.wordpress.com/ 1 -new-forms-of-personal connection/https://edu.gcfglobal.org/en/topics/socialmedia/
4. shttps://moz.com/beginners-guide-to-social-media

(NMG02) Animation for Gaming using Blender

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives

1. To Introduce the basics of Game Animation
2. To provide understanding about usage of Blender
3. To create character Animation using Blender
4. To expertise in Animating the walk cycles
5. To create Animation for Games

Course Outcomes

1. Student can recognize types and process of different types of animation
2. Student can identify Aesthetic and technical aspects of game animation
3. Student can use appropriate Feature and Function of Blender for Game Animation
4. Acquire skills for creating Character Animation
5. Differentiate different types of Animation used in Games

Unit 1	Introduction to Game Animation	L	T	P
1.1	Basics of Game Animation and Feature Animation (Class room lecture, demonstration and assignments)	1	1	1
1.2	Important elements about Games (Class room lecture, PPT, demonstration)	1	1	1
1.3	The storytelling and Game (Class room lecture, PPT, demonstration)	1	1	1
1.4	Game Animation Fundamentals (Class room lecture, PPT, demonstration in studio)	1	1	1
1.5	Examples of Game Animation (Class room lecture, PPT, lab)	1	1	1

Unit 2	Introduction to Blender	L	T	P
2.1	A Quick history of Blender (Class room lecture and PPT)	1	1	1
2.2	The Blender Interface (Class room lecture and PPT about basic principles)	1	1	1
2.3	Introduction to Modelling (Class room lecture and Lab)	1	1	1
2.4	Intermediate Modeling and Rigging (Class room lecture and PPT)	1	1	1
2.5	Create Basic 3D characters in Blender (Class room lecture and Lab)	1	1	1

Unit 3	**Character Animation**	L	T	P
3.1	Preparing Character for Animation (Class room lecture, lab and assignments)	1	1	1
3.2	Setting up the Scenes, Character Anatomy (Class room lecture, PPT, Lab)	1	1	1
3.3	Creating the Initial Pose (Class room lecture, PPT)	1	1	1
3.4	Creating the Breakdown (Class room lecture, Lab)	1	1	1
3.5	Creating the Animation (Class room lecture, PPT, demonstration)	1	1	1

Unit 4	**Animating the Walk Cycle**	L	T	P
4.1	Creating the Contact Pose (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.2	Creating the Down & Passing Pose (Class room lecture, demonstration and assignments)	1	1	1
4.3	Adding the Break Down Pose (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.4	Adjust the Graph Editor (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.5	Finishing the Walk (Class room lecture, PPT, demonstration and assignments)	1	1	1

Unit 5	**Game Animation**	L	T	P
5.1	Basics Of Character Animation For Games (Class room lecture, demonstration and assignments)	1	1	1
5.2	Dynamic Action Poses (Class room lecture, PPT, demonstration)	1	1	1
5.3	Advanced Body Mechanics (Class room lecture, PPT, demonstration)	1	1	1
5.4	Workflow (Class room lecture, PPT, demonstration in studio)	1	1	1
5.5	Retiming your Animation (Class room lecture, PPT, lab)	1	1	1
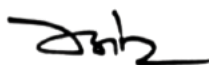
Practical/Projects/Assignments:
1. Creating a Bouncing Ball.
2. Create a Prop Animation.
3. Create a walk cycle in Blender.
4. Create an action scene.
5. Create a short realistic game animation.

Suggested Readings:
1. The Animator's Survival Kit : by Richard E. Williams
2. Game Anim: Video Game Animation Explained: by Jonathan Cooper
3. Blender 3D- Introducing Character Animation: Rohit Soren
4. Blender FD 3e (For Dummies) by Jason van Gumster
5. The Complete Guide to Blender Graphics: A Beginner's Guide by John M. Blain 5. Learning Blender: A Hands-On Guide to Creating 3D Animated Characters 1st Edition by Oliver Villar

E-Resource:
1. https://www.blendernation.com/category/education/tutorials/videotutorials/
2. https://www.blenderguru.com/tutorials
3. https://www.blendernation.com/category/education/documentation/books/
4. https://cgcookie.com/categories/3d/tutorials

Co-Curricular- 2

Bachelor's :II Year				Marks:40		Credits:2		
ADA08 (A) Parliament: Practice and Procedure	Th	Pr	Ia	Credit/ hours				
				L	T	P		
	-	30	10	-	1/1	1/2		

Course Objectives
- •To acquaint students with knowledge of the Indian Constitution.
- • To make students familiar with concept of Parliament.
- • To understand the concept of various practices and procedures of Indian Parliament
- • To develop understanding about powers and privileges of Parliamentary and Legislative members

Learning Outcomes
- • Students will be able to understand the concept of Indian Constitution and Parliament.
- • Students will be able to understand working of Indian Parliament
- • Students will be able to understand and analyze working of State Assembly and Legislative Councils
- • Ability to apply the theory into practice.

Unit-1	Introduction to Indian Constitution (Total hours- L+T+P=6hrs)	L	T	P
1.1	Preamble	-	1	1
1.2	Fundamental Rights	-	-	2
1.3	Directive Principles of State Policy	-	-	2

Unit-2	Introduction to Indian Parliament (Total hours- L+T+P=6hrs)	L	T	P
2.1	Working of Indian Parliament	-	1	1
2.2	Committee of Indian Parliament	-	-	2
2.3	Budget	-	-	2

Unit-3	Lok Sabha and Rajya Sabha (Total hours- L+T+P=6hrs)	L	T	P
3.1	Working of Lok Sabha & Rajya Sabha	-	1	1
3.2	Passing of Bill in Lok Sabha & Rajya Sabha	-	-	2
3.3	Election of Members in of Rajya Sabha & Lok Sabha	-	-	2

Unit- 4	State Assemblies and Legislative Councils (Total hours- L+T+P=6hrs)	L	T	P
4.1	Introduction to Legislative Councils	-	1	1
4.2	Elections of members in Legislative Council	-	-	2
4.3	Functions of Legislative Council	-	-	2

Unit 5	Different Parliamentary Systems in World (Total hours- L+T+P=6hrs)	L	T	P
5.1	Japan Parliamentary System	-	1	1
5.2	Canada Parliamentary System	-	-	2
5.3	Germany Parliamentary System	-	-	2

Practical/Projects/Assignments:

➢ Role play/Skit/Mock Parliament.

➢ PPT Presentation on various contemporary issues

➢ Visit to Vidhan Sabha

➢ Virtual tour of the Indian Parliament.

➢ Any other assignment given by the concerned faculty.

Suggested Readings:

➢ Kaul M.N and Shakdher S.L, Practice and Procedure of Parliament, Lok Sabha Secretariat, New Delhi, Seventh Edition

➢ Khosla Madhav, The Constitution of Most Surprising Democracy, Oxford

➢ Basu Dr. Durga Das, Introduction of Indian Constitution, Lexis Nexis, 2019

➢ Rules of Procedure and Conduct of Business in the Council of States, Rajya Sabha Secretariat, New Delhi,2013.

➢ Chaudhary Sujit, Khosla Madhav and Mehta Pratap Bhanu, The Oxford Hand book of the Indian Constitution, Oxford University Press U.K,2016

➢ Role of Rajya Sabha in Indian Parliamentary Democracy, Rajya Sabha Secretariat, New Delhi,2019

➢ Narain Dr. Yogendra, Role and Relevance of Rajya Sabha in Indian Polity, Rajya Sabha Secretariat, New Delhi.

➢ Kashyap Subhash C., Our Parliament, National Book Trust, India

➢ Handbook for Members of Rajya Sabha, Rajya Sabha Secretariat, New Delhi, 2010

➢ Bakshi PM, Constitution of India, Universal Law Publishing, 2017

➢ De Rohit, A Peoples Constitution, Princeton University Press,2018.

E-Resources:

➢ https://eparlib.nic.in

➢ https://epgp.inflibnet.ac.in

➢ http://Indias-Founding-Moment-Constitution-Surprising-ebook/

Co-Curricular- 2

ADA08 (B) भारतीय संगीत

CC/CE/ SE/OE	L	T	P	Credit	Continuous Evaluation Marks	End-Term Practical Exam Marks	Total Marks
CC	0	1	1	2	10	30	40

उद्देश्य

/1संगीत के मूल तत्वों को समझना ।

/2सुगम संगीत की विभिन्न विधाओं जैसे गीत, भजन, गजल शैलियों इत्यादि से संगीत में आये हुए विभिन्न सैद्धान्तिक एवं वैचारिक महत्व पर चिंतन ।

/3संगीत का सैद्धान्तिक और व्यावसायिक क्षेत्रों में प्रदर्शन, नियोजन को जानना ।

/4हिन्दी चित्रपट संगीत की समझ विकसित करना ।

/5अन्य विषयों के साथ भारतीय संगीत को जोड़कर शोध के लिए भारतीय संगीत का प्रारंभिक ज्ञान देना ।

शिक्षण के परिणाम

/1अलंकारों, राग काफी, भैरव, भैरवी की जानकारी ।

/2सुगम संगीत की भिन्न शैलियों से परिचित होना ।

/3भारतीय चित्रपट को जानना एवं प्रमुख संगीतकारों की शैलियों की समझना ।

/4भारतीय चित्रपट संगीत में प्रसिद्ध पार्श्वगायकों के योगदान को जानना ।

/5ताल एवं वाद्य यंत्रों की प्रारंभिक समझ ।

ईकाई 1 –		L	T	P
11.	प्रारंभिक अलंकारों का लेखन 20 से 10		2	2
1.2	राग काफी, भैरव, भैरवी का सम्पूर्ण परिचय			6

ईकाई –2		L	T	P
2.1	सुगम संगीत परिभाषा एवं विशेषताएँ		2	2
2.2	सुगम संगीत शैलियाँ गीत, गजल, भजन प्रसिद्ध कवियों), शायर की -5 (रचनायें 5			6

ईकाई –3		L	T	P
3.1	चित्रपट का अर्थ, परिचयन एवं इतिहास		2	
3.2	हिन्दी चित्रपट संगीत में शास्त्रीय संगीत का प्रयोग करने वाले प्रमुख संगीतकार		2	4

ईकाई –4		L	T	P
4.1	पार्श्वगायन का अर्थ, हिन्दी चित्रपट संगीत में पार्श्वगायन का प्रारंभ		2	
4.2	हिन्दी चित्रपट संगीत के प्रमुख गायक गायिकाएँ परिचय एवं योगदान/ द रफीमोहम्म), मन्नाडे, मुकेश, किशोर कुमार, भारत रत्न लता मंगेशकर, आशा भोसले, गीता दत्त, सुमन कल्याण पुरकर		2	4

ईकाई –5		L	T	P
5.1	सुगम संगीत में प्रयुक्त होने वाले तालों का परिचय एवं प्रयोग ताल-तीव्रा, कटरवा दादरा, रूपक, झपताल, तीनताल		1	6
5.2	सुगम संगीत में वाथवृंद का प्रयोग, महत्व एवं प्रमुख वाद्य		1	2

भारतीय संगीत (सुगम गायन)
द्वितीय वर्ष प्रायोगिक -

प्रारंभिक अलंकारों का गायन 20 से 10

रागकाफी-, भैरव, भैरवी में आरोह पकड-अवरोह-

सरगम, लक्षणगीत, छोटारख्याल 5-5 -आलाप तानों सहित प्रस्तुत करना ।

सुगम संगीत संगीत कीफिल्म/दो रचनायें स्वेच्छा से प्रस्तुत करना ।

हिन्दी चित्रपट संगीत के प्रसिद्ध पार्श्वगायक शब्द) रीय रचनागायिकाओं में से किसी एक की स्त/
 तिकी प्रस्तु (रचना

बाह्य परीक्षक की इच्छानुसार सुगम संगीत की किसी एक शैली को प्रस्तुत करना ।

सैद्धान्तिक प्रश्नपत्र के तालों को हाथ से प्रदर्शित करना । (खाली/ताली)
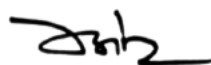
संदर्भ -

/1हिन्दुस्तानी संगीत पद्धति - 2/1 भाग -लेखक विभातखण्डे .ना.

/2राग परिचय - 4/3/2/1 भग -लेखक हरिशचन्द्र श्रीवास्तव

/3संगीत विशारद लेखक वसंत -

गुगल पितस्था-/यू टयूब/नेट/पार्श्वगायकोंगायिकाओं के गीत हेतु ।/

Co-Curricular- 2

<u>ADA08 (C) ललित कला</u>

उददेश्य

/1दृश्य चित्रण की विधि से छात्रों को परिचित कराना।

/2प्रकृति और जीवन की सुंदरता की सराहना करने के लिए उनकी दृष्टिको समृद्ध कराना।

/3प्राकृतिक और मानव निर्मित वस्तुओं के विभिन्न रूपों का अभ्यास।

/4रंगो के प्रयोग और विभिन्न तकनीकों से छात्रों को परिचित कराना।

/5विभिन्न प्रकार की कला सामग्री और उपकरणो का तकनीकों के साथ प्रयोग और कौशल सिखाना।

/6अन्य विषयों के साथ ललित कला को जोडकर शोध के लिए ललित कला का प्रारंभित ज्ञान देना ।

शिक्षण के परिणाम

/1परिप्रेक्ष्य चित्रण की समझ ।

/2प्रकृति और जीवन की सुंदरता की सराहना और आनंद प्राप्ति ।

/3प्राकृतिक और मानव निर्मित वस्तुओं के विभिन्न रूपों का अध्ययन करके कला के नए रूप को बनाने की प्रेरणा।

/4विभिन्न प्रकार की कला सामग्री और उपकरणो के प्रयोग से कौशल का विकास ।

/5कलात्मक कौशल और रचनात्मकता का विकास ।
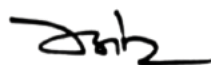
ईकाई 1 -	दृश्य चित्र और प्रकृति अध्ययन	L	T	P
1.1	परिचय		1	
1.2	स्केचिंग और परिप्रेक्ष्य			2
1.3	रंग भरने की विभिन्न तकनीक			2
1.4	पौधों,पेड़ों और फूलों का अध्ययन		1	1
1.5	फलों और सब्जियों का अध्ययन		1	1

ईकाई- 2	अलंकरण(डिज़ाइन)			
2.1	सजावटी और ज्यामितीय अलंकरण(डिजाइन)		1	2
2.2	पोस्टर डिजाइन		1	2
2.3	लोगो डिजाइन		1	2

ईकाई- 3	ब्लॉक प्रिंटिंग और फैब्रिक पेंटिंग			
3.1	परिचय		2	2
3.2	सब्जी से प्रिंट (Vegetable Prints)			2
3.3	लकड़ी के ब्लॉक से प्रिंट			2
3.4	फैब्रिक पेंटिंग (कुशन कवर और दुपट्टे)			2

ईकाई-4	मिट्टी से रचना(क्ले मॉडलिंग, तीन आयामी कला)			
4.1	परिचय		**2**	2
4.2	सरल आकार (फल, सब्जी और फूल)			2
4.2	पक्षी और जानवर			2
4.4	पी ओ पी ब्लॉक नक्काशी			2

ईकाई- 5	कागज शिल्प			
5.1	बुक जैकेट डिजाइन		1	2
5.2	पेपर क्राफ्ट मोबाइल		1	2
5.3	कैलेंडर डिजाइन		1	2
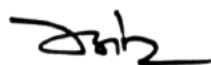
ललित कला प्रायोगिक

/1दृश्य चित्र और प्रकृति अध्ययन ।

/2अलंकरण (डिज़ाइन)

/3ब्लॉक प्रिंटिंग और फैब्रिक पेंटिंग ।

/4मिट्टी से रचना (क्लेमॉडलिंग,तीन आयामीकला)

/5कागज शिल्प

संदर्भ–

1.भारतीय कला एवं संस्कृति -नितिन सिंघानिया

2. Water colour Landscapes Step by Step by Milind Mulick

3. Colors of India: India Block Print Art (Block Prints Book 1) Kindle Edition by Shruti Jain

4. A for Ajrakh: The A to Z of Block by Nina Sabnani

Completion of Third Year : Bachelor of Science: Multimedia (3 Years) (120 Credits)

Semester V

(NMC11) Search Engine Optimization and Digital Marketing

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives
1. To understand the concepts and working of SEO
2. To learn various search and query options
3. To learn the concepts of Digital Marketing
4. To explore Digital Marketing tools.
5. To understand Google Analytics and Google Ads

Course Outcomes
1. Develop good understanding of SEO
2. Understand the use of search and various queries effectively
3. Develop critical thinking about Digital Marketing
4. Understand the appropriate use of digital tools for various situation
5. Student will be able to perform Google Analytics

Unit 1	Search to Engine Optimization	L	T	P
1.1	SEO, SMO and SEM: Concept, Difference and Functioning	1	1	1
1.2	Introduction to SEO, History & Growth of SEO	1	1	1
1.3	Search Engines- Concept, Types; Crawler based and Human power directories	1	1	1
1.4	Comparison of search engines	1	1	1
1.5	Search Engine as a Tool of Digital PR and Advertising	1	1	1

Unit 2	Search Query	L	T	P
2.1	On-page Optimization, Off-page Optimization	1	1	1
2.2	Keywords and Google Adwords	1	1	1
2.3	Query expansion: spelling correction and synonyms	1	1	1
2.4	Wild-card queries, permuterm indices, soundex, language detection, Page Ranking and HITS	1	1	1
2.5	Presentation of search results, display of search results, manipulation of search results.	1	1	1

Unit 3	Digital Marketing	L	T	P
3.1	E-Commerce Development, Search Marketing& Blogging, Origin and development of Marketing	1	1	1
3.2	Creating Marketing Content and Campaign Planning,	1	1	1

3.3	Organic Social media Marketing, Brand Reputation Management,	1	1	1
3.4	Analytics & Reporting, Media, Planning, Buying and Optimization,	1	1	1
3.5	Managerial & Soft Skills	1	1	1

Unit 4	Digital Marketing Tools	L	T	P
4.1	Marketing Tools, Marketing Information System	1	1	1
4.2	Search Engine Marketing, Pay per click , Pinterest Marketing	1	1	1
4.3	Twitter Marketing, Linkedin Marketing, Instagram Marketing	1	1	1
4.4	YouTube Marketing- account setup and optimization, YouTube SEO and Thumbnails	1	1	1
4.5	YouTube Marketing: YouTube Marketing- overview, strategy	1	1	1

Unit 5	Google Ads and Google Analytics	L	T	P
5.1	Google Ads- Introduction, working	1	1	1
5.2	Google Ads account setup	1	1	1
5.3	Google Analytics overview and setup	1	1	1
5.4	Google Analytics working	1	1	1
5.5	Link Google Ads to Google Analytics	1	1	1
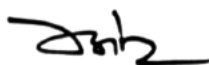
Practical / Projects/Assignments:
1. List the important features of SEO in digital marketing
2. Prepare digital marketing strategies for given situation
3. Prepare digital marketing campaigns for given situation
4. Storytelling through blogs for social media
5. Prepare Google Ad base and marketing and perform Google Analytics

Suggested Readings:
1. Managing Gigabytes, by I. Witten, A. Moffat, and T. Bell.
2. Modern Information Retrieval, by R. Baeza-Yates and B. Ribeiro-Neto.
3. Information Retrieval: Algorithms and Heuristics by D. Grossman and O. Frieder
4. Web Technologies, Black Book, Dreamtech Press
5. M. Okley ed., Design Management – A Handbook of Issues and Methods, Blackwell, 1998.

E-Resources:

1. https://cdn2.hubspot.net/hub/53/file-13204607-pdf/docs/introduction-to-seo-ebook.pdf
2. https://static.googleusercontent.com/media/www.google.dk/en/dk/webmasters/docs/search-engine-optimization-starter-guide.pdf
3. https://www.youtube.com/watch?v=zd14KBbtvsk

(NMC12) Information Literacy, Cyber Laws and Ethics

Theory	80	Practical	-	Internal	20	Credits	5

Course Objectives
1. To understand information literacy
2. To understand the different threats and vulnerability of Electronic Records
3. To learn Intellectual Property Rights in India
4. To learn different system based attacks globally
5. To understand the different types of cyber laws and penalties

Course Outcomes
1. Student would have awareness of fact checking
2. Student would have awareness of different threats and vulnerability of Electronic Records
3. Student would have basic understanding of Intellectual Property Rights
4. Student can differentiate between different types of system based attacks globally
5. Student would understand different types of cyber laws and Penalties

Unit 1	Information Literacy	L	T	P
1.1	News and Information Literacy (Lecture, Discussion)	2	1	-
1.2	Power of Information, Misinformation, Disinformation (Lecture, Discussion)	2	1	-
1.3	Developing Critical Thinking (Lecture, Discussion)	2	1	-
1.4	Fact checking- Text, images (Lecture, Discussion)	2	1	-
1.5	Fact checking- Videos (Lecture, Discussion)	2	1	-

Unit 2	Law Relating to Electronic Records	L	T	P
2.1	Understanding Cyber laws (Lecture, Discussion)	2	1	-
2.2	Conceptual Framework, Growth, Development and Modes of E Commerce (Lecture, Discussion)	2	1	-
2.3	The Legal Recognition of Electronic/Digital Signatures	2	1	-

	(Lecture, Discussion)			
2.4	Retention and Securing Electronic Record in India (Lecture, Discussion)	2	1	-
2.5	Verification of Electronic Signature in India (Lecture, Discussion, Group activity)	2	1	-

Unit 3	Intellectual Property Rights in India	L	T	P
3.1	The Relevance of Domain Names in Intellectual Property Rights (Lecture, Discussion)	2	1	-
3.2	Protection of Copyright on Cyberspace (Lecture, Discussion)	2	1	-
3.3	Infringement of Copyright on Cyberspace (Lecture, Discussion)	2	1	-
3.4	Remedies for Infringement of Copyright on Cyberspace (Lecture, Discussion)	2	1	-
3.5	Cyberspace and the Protection of Patents in India, Patent as a Form of Intellectual Property (Lecture, Discussion)	2	1	-

Unit 4	International Efforts Relating to Cyberspace Laws and Cyber Crime	L	T	P
4.1	United Nations Commission on International Trade Law (Lecture, Discussion)	2	1	-
4.2	The Organization for Economic Cooperation Development (Lecture, Discussion)	2	1	-
4.3	World Trade Organisation and E Commerce (Lecture, Discussion)	2	1	-
4.4	The World Intellectual Property Organization and E Commerce (Lecture, Discussion)	2	1	-
4.5	Internet Law and Policy Forum (Lecture, Discussion)	2	1	-

Unit 5	Penalties, Compensation and Offences under the Cyberspace	L	T	P
5.1	Penalty and Compensation for Damage to Computer (Lecture, Discussion)	2	1	-
5.2	Compensation for Failure to Protect Data (Lecture, Discussion)	2	1	-
5.3	Penalty for Failure to Furnish Information (Lecture, Discussion)	2	1	-
5.4	Some Important Offences under the Cyberspace Law (Lecture, Discussion)	2	1	-
5.5	Other Offences under the Information Technology Act in India (Lecture, Discussion)	2	1	-

Practical / Projects/Assignments:

1. Fact check text, video, images
2. Discuss about cyber and network security in group.
3. Assignment on Hackers, crackers and cyber criminals.
4. Explore and create a report on web based attacks happened in India and Worldwide.
5. Explore and create a report on system based attacks happened in India and Worldwide.
6. Write an article/essay on different cyber laws in India.

Suggested Readings:

1. Fundamentals of Cyber Security by Bhushan/Rathore/Jamshed, 2017, BPB, ISBN-10: 9789386551559
2. Cyber Security by Nina Godbole, Sunit Belapure, 2011, Wiley, ISBN-10: 9788126521791
3. Cyber Laws & Information Technology by Dr Jyoti Rattan, Dr Vijay Rattan, 2019, Bharat Law House Pvt Ltd, ISBN-10: 9351397173

E-Resources:

1. Information Security and Cyber Law accessed at https://www.tutorialspoint.com/information_security_cyber_law/index.htm
2. Cyber Crime and Cyber Security accessed at https://www.tutorialspoint.com/fundamentals_of_science_and_technology/cyber_crime_and_cyber_security.htm
3. Cyber Security accessed at https://www.javatpoint.com/types-of-cyber-attackers

NME-1(A) 3D Design using Max

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To learn the essentials of 3D Design and working with 3D MX
2. Design and Synthesize Inorganic Models Using Polygonal Modeling Techniques
3. Texture the Models using Advanced Mapping Techniques
4. Create Realistic 3D Models and Textures
5. Describe 3D Product Lighting and Mental Ray Rendering for Product Presentation

Course Outcomes
1. Student can design 3D Model Objects using learnt techniques
2. Demonstrate a Range of Specialised Principles and Concepts of 3D Modeling from Real-World Data Acquired
3. Execute a Visualisation Project, from Acquired 3D Data from Photogrammetric of End-User Applications
4. Analyze and evaluate Softwares that Support and Enhance 3D Modelling Work
5. Critically Review, Consolidate and acquire Skills in 3D Modeling and Animation

Unit 1	Introduction of 3D & 3D MAX	L	T	P
1.1	Definition of 3D Design, Hardware and software technical specification (Lecture, Discussion)	1	1	1
1.2	3ds Max : interface, Terms and concepts, view Port , screen layout, menu bar, main tool bar (Lecture, Discussion)	1	1	1
1.3	Command panel, create panel, modify panel (Lecture, Practice, Assignment)	1	1	1
1.4	Hierarchy panel, motion panel (Lecture, Discussion)	1	1	1
1.5	Display panel, utilities panel (Lecture, Discussion, Assignment)	1	1	1

Unit 2	Polygon Modeling	L	T	P
2.1	Working with primitive polygon objects, creating box and sphere, creating prism (Lecture, Discussion, Assignment)	1	1	1
2.2	Modifying primitive, selecting object : name, color, region, transforming objects (Lecture, Assignment)	1	1	1
2.3	Coordinate system in 3d max, transform Gizmos , moving an object,	1	1	1

	rotating an object (Lecture, Practice, Assignment)			
2.4	Scaling an object, Hiding and freezing an object, (Lecture, Discussion, Practice)	1	1	1
2.5	Cloning objects, grouping objects, Mirroring objects, Aligning objects (Lecture, Discussion, Practice, Assignment)	1	1	1

Unit 3	Subdivision Modeling	L	T	P
3.1	Basic modeling techniques (Lecture, Assignment)	1	1	1
3.2	Introduction to modifiers, modifiers types, modifier stack, using various modifiers (Lecture, Practice, Assignment)	1	1	1
3.3	Working with 2d Shapes, shapes primitive (Lecture, Practice)	1	1	1
3.4	3D object, Using the Graphite Modelling tool, materials, Properties of materials , Modifier , Modelling concepts (Lecture, Practice, Assignment)	1	1	1
3.5	Exploring NURBS Modelling, Creating a NURBS Curve Sub Object, Converting object to NURBS, Editing NURBS (Lecture, Discussion, Practice, Assignment)	1	1	1

Unit 4	Texturing	L	T	P
4.1	Mesh Object and Sub Object, Exploring Subdivision Modeling (Lecture, Discussion)	1	1	1
4.2	Applying the mesh smooth modifier, Applying the Turbo smooth modifier (Lecture, Practice)	1	1	1
4.3	Exploring Polygonal modelling , Creating Mesh Object, Converting and object into an Editable poly object, Collapsing an object (Lecture, Discussion, Practice, Assignment)	1	1	1
4.4	Advanced Materials, Subsurface Scattering, Texture Map ,Layered Texture (Lecture, Practice, Assignment)	1	1	1
4.5	Human Anatomy UV Coordinates Setup for Texturing, Maps - Color Maps, Bump Maps, Displacement Maps, Normal Maps, Specular Maps, Mask Maps, Occlusion map	1	1	1

	(Lecture, Discussion, Practice, Assignment)			

Unit 5	Lighting and Rendering	L	T	P
5.1	Basic concepts of lighting , Properties of light (Lecture, Practice)	1	1	1
5.2	Shadows and Cameras, Light Types: Omni, Spot, Directional ,Creating Lights, Changing Light, Types, Creating a Sunlight System, Adjusting Illumination, On/Off (Lecture, Practice, Assignment)	1	1	1
5.3	Exclusion, Intensity, Color, Hotspot and Falloff, Attenuation, Decay, Projector Maps , Volumetric Lighting, Casting Shadows, On/Off, Shadow Types, Shadow Color, Light Placement (Lecture, Discussion, Practice)	1	1	1
5.4	Light Viewport Controls, Animating Lights, Camera Types, Target, Free, Creating Cameras, Aiming Cameras ,Changing ,Camera Types, Activating a Camera View, Adjusting Cameras, Focal Length, Field of View (Lecture, Discussion, Practice, Assignment)	1	1	1
5.5	Clipping Planes, Environment Ranges, Camera Placement, 3d Rendering and Rendering methods (Lecture, Discussion, Practice)	1	1	1

Practical / Projects/Assignments:
1. Design various Models (Interior exp: Lamp, Table etc.)
2. Design various Models (Exterior exp: Ball, Helicopter etc.)
3. Create Animation with 3D Model
4. Apply Light and Texture for 3D Design
5. Any other Assignment given by the concerned faculty member

Suggested Readings:
1. Introducing 3ds Max 3D for Beginners by Dariush Derakhshhani, SYBEX (2003).
2. 3ds Max 2010 IN Simple Steps,byKogent Learning Solution Inc. ,Dreamtech Press.
3. 3D Max Bbible(2006).
4. Kelly L. Murdock, 3ds max TM 4 Bible, John Wiley & Sons.

E- Resources:
1. Autodesk's 3ds Max; https://www.creativebloq.com/features/10-top-3ds-max-tutorials
2. 3Ds Max from Scratch; https://www.arch2o.com/learn-3ds-max/

NME-1(B) 3D Design using MAYA

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To provide understanding on the concept and usage of Autodesk Maya
2. Create and manipulate 3D assets in the application
3. Utilize appropriate content and techniques to conceptualize storyboard
4. Bring 3D objects to life by using Maya's animation tools
5. Understand the production pipeline and workflows used in the industry

Course Outcome
1. Produce 3D models from a sketch, storyboard
2. Perform Feature and function of Maya software
3. Demonstrate any idea for 3DAnimation
4. Generate lighting and Visual Effects in Animation
5. Recognize gaming & animation pipeline

Unit 1	Introduction to Maya	L	T	P
1.1	Maya Interface (Class room lecture and PPT)	1	1	1
1.2	Maya Interface, Vertices, Lines, Polygons, Polygon Faces (Class room lecture and PPT about basic principles)	1	1	1
1.3	Creating a Scene, Manipulating a Scene in 3D (Class room lecture and PPT)	1	1	1
1.4	Texturing an Object (Class room lecture and PPT)	1	1	1
1.5	Lighting a Scene, Rendering a Still Frame (Class room lecture and PPT)	1	1	1

Unit 2	Modeling & Texturing	L	T	P
2.1	Basic of modeling, Modeling with NURBS & polygon (Class room lecture, PPT and demonstration in studio)	1	1	1
2.2	Attaching surfaces, Rebuilding Surfaces, Textures Coordinates (Class room lecture, demonstration and PPT)	1	1	1
2.3	Polygon Modeling and Texturing - Modeling with Polygon Tools (Class room lecture, demonstration and PPT)	1	1	1
2.4	Working with Symmetry, Using Image Planes, Block Modeling (Class room lecture and demonstration)	1	1	1
2.5	Sculpturing Polygon Objects, UV Texturing, Paint Effects, Material's, Hyper shade (Class room lecture, demonstration and PPT)	1	1	1

Unit 3	Rigging & Animation	L	T	P
3.1	Creating the Skeleton, Using Deformers (Class room lecture, demonstration and assignments)	1	1	1
3.2	Constrain and utility's, Set driven key Connection editor, Creating a rig using IK FK (Class room lecture, PPT, demonstration)	1	1	1
3.3	Animation principles, Graph editor (Class room lecture, PPT, demonstration)	1	1	1
3.4	Animating objects along paths, Playblast, Ball bouncing (Class room lecture, PPT, demonstration in studio)	1	1	1
3.5	Walk cycle (Class room lecture, PPT, demonstration)	1	1	1

Unit 4	Dynamic Effects	L	T	P
4.1	Particle properties (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.2	Fluids dynamics (Class room lecture, demonstration and assignments)	1	1	1
4.3	Fields, soft and rigid bodies (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.4	Basic of hair and fur (Class room lecture, PPT, demonstration and assignments)	1	1	1
4.5	Cloth simulation (Class room lecture, PPT, demonstration and assignments)	1	1	1

Unit 5	Lighting and Rendering	L	T	P
5.1	The art and techniques of lighting (Class room lecture, PPT and demonstration in studio)	1	1	1
5.2	Three point lighting, Light links, camera shot (Class room lecture, demonstration, assignments and PPT)	1	1	1
5.3	Types of Rendering in Maya, Material and light Interaction (Class room lecture, demonstration, assignments and PPT)	1	1	1
5.4	Render Layers (Class room lecture, demonstration and assignments)	1	1	1
5.5	Render with Alpha Channel (Class room lecture, demonstration and assignments)	1	1	1
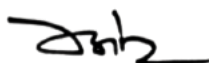
Practical / Projects/Assignments:
1. Create prop models.
2. Light and Texture for Assets Design.
3. Prepare Assets & Characters, low poly models.
4. Create rain particle for exterior design.
5. To prepare walk cycle.

Suggested Readings:
1. The Yucatan : A Guide to the Land of Maya Mysteries Plus Sacred Sites at Belize, Tikal & Copan - by Antoinette May
2. John Kundert - Giibs, Eric Mick Larkins, Eric Keller, Boaz Livny, Mark E.A. De Soura, Mastering Maya 7 , Wiley Kunzen Dort, DariushDerakhashani, Publishing Edition 2006.
3. Maya - by Peter Schmidt (Editor), Enrique Nalda (Editor), Mercedes De LA Garza, Orefici
4. Maya 8 : The Complete Reference, Tom Meade, ShinsakuArima
5. Maya Character Modeling and Animation: Principles and Practices, Tereza Flaxman
6. Introducing Maya 8: 3D for Beginners, DariushDerakhshani
7. Understanding 3D Animation Using Maya, John Edgar Park
8. The Animators Survival Kit, Originally published: 2001 Author: Richard E. Williams
9. Stop Staring: Facial Modeling and Animation Done Right, Originally published: 2003 Author: Jason Osipa
10. The Art of Rigging, Volume 1,2,3 Publish ed : 2006;Author:Kiaran Ritchie
11. Advanced Maya Texturing and Lighting, Published: 2008; Author: Jeremy Birn

E- Resources:
1. Maya Modeling Tools; https://elementza.com/quickstart-to-3d-modeling-in-maya/
2. Create a project from start to finish-model, texture, rig, animate, and render in Maya at ;https://searchworks.stanford.edu/view/9629881

(NMG03) AI and Robotics

| Theory | 80 | Practical | - | Internal | 20 | Credits | 5 |

Course Objectives
1. To explain basics of Artificial Intelligence
2. To understand concept of Robotics
3. To understand the transition from AI to Robotics
4. To explain the working of AI in Multimedia
5. To study the working of AI in Gaming

Course Outcomes
1. Understand AI, its present relevance
2. Identify and recognize Robots
3. Student would able to analyze the transition of AI to Robotics
4. Student would able to identify use of AI in Media
5. Student would able to explore AI in gaming

Unit 1	Introduction to AI	L	T	P
1.1	Defining AI, Continuing with expert systems (Lecture, Discussion, Presentation)	2	1	-
1.2	Evolution of AI, Influence of AI in Communication (Lecture, Discussion, Presentation)	2	1	-
1.3	Discerning intelligence, Starting with symbolic logic, Overcoming the AI winters (Lecture, Discussion, Presentation)	2	1	-
1.4	Considering AI uses and avoiding AI hype (Lecture, Discussion, Presentation)	2	1	-
1.5	Connecting AI to the Underlying Computer (Lecture, Discussion, Presentation)	2	1	-

Unit 2	Introduction to Robotics	L	T	P
2.1	Introduction to Robotics (Lecture, Discussion, Presentation)	2	1	-
2.2	Early Pioneers (Lecture, Discussion, Presentation)	2	1	-
2.3	Types of Robot, Online Bots (Lecture, Discussion, Presentation)	2	1	-
2.4	Understanding the key component of Robots system. (Manipulator, end effectors, locomotion device, controllers and the sensors)	2	1	-
2.5	Cultural and Social Impact (Lecture, Discussion, Presentation)	2	1	-

Unit 3	AI and Robotics	L	T	P
3.1	AI for Robots (Lecture, Discussion, Presentation)	2	1	-
3.2	Embodied AI-Making of autonomous agents(Lecture, Discussion, Presentation)	2	1	-
3.3	Anthromorphism: Concepts from semiotics and ecology (Lecture, Discussion, Presentation)	2	1	-
3.4	Anthromorphism: Concepts from psychology and Artificial animals (Lecture, Discussion, Presentation)	2	1	-
3.5	Evaluating performance - AI VS. engineering (Lecture, Discussion, Presentation)	2	1	-

Unit 4	AI in Multimedia	L	T	P
4.1	Developing New Ways to Communicate viz. use of emoji, Automatic language translation etc. (Lecture, Discussion, Presentation)	2	1	-
4.2	Use of AI in Multimedia (Lecture, Discussion, Presentation)	2	1	-
4.3	Text Recognition (Lecture, Discussion, Presentation)	2	1	-
4.4	Document analysis and enhancement techniques (Lecture, Discussion, Presentation)	2	1	-
4.5	AI in Media (Lecture, Discussion, Presentation)	2	1	-

Unit 5	AI in Gaming	L	T	P
5.1	Ways of using AI in games (Lecture, Discussion, Presentation)	2	1	-
5.2	Generating the content (Lecture, Discussion, Presentation)	2	1	-
5.3	Modeling Players (Lecture, Discussion, Presentation)	2	1	-
5.4	Game AI panorama (Lecture, Discussion, Presentation)	2	1	-
5.5	Game AI Research (Lecture, Discussion, Presentation)	2	1	-

Practical/Projects/Assignments:
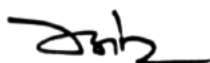
1. To draw the timeline of AI.
2. To draw a diagram of robot and mention the key component of a robotic system.
3. List out and define any four new forms of communication.
4. Case study of Pac man project.
5. Critical Design thinking (proposed by subject teacher)

Suggested Readings:

1. From AI to Robotics, Taylor and Francis by ArkapravoBhaumik Publisher: CRC Press ISBN-13:978-1482251470
2. Artificial Intelligence for dummies by John Paul Mueller and Luca MassaronPublisher: Wiley ISBN-13:978-8126576104
3. AI for Games THIRD EDITION by Ian Millington Publisher:CRC Press ISBN-13:978-1138483972
4. Artificial Intelligence and Games, Springer by Georgios N. Yannakakis Julian Togelius Springer International Publishing ISBN 978-3-319-63518-7

E-Resources:

1. https://www.research.ibm.com/haifa/dept/imt/multimedia.shtml
2. Multimedia Intelligence: When Multimedia Meets Artificial Intelligencehttps://dl.acm.org/doi/abs/10.1145/3394171.3418547
3. Artificial Intelligence and Robotics – arXiv https://arxiv.org/ftp/arxiv/papers/1803/1803.10813.pdf
4. http://gameaibook.org/book.pdf
5. https://www.oreilly.com/library/view/ai-for-game/0596005555/ch01.html

Semester VI

(NMC13) Visual Effects (VFX)

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. Learn the important principles and tools of modern visual effects
2. Learn the development of VFX creation
3. Understand the modern techniques of VFX
4. Explore the interface of After Effects and identify the compositing tools
5. Applying the tools of After Effects for creation of visual effects

Course Outcomes
1. Understanding the essential principles of visual effects
2. Student will be able to Identify the relevant VFX techniques required to be used in different situations
3. Analyze visual effects in animation, movies
4. Student would have a deep understanding and clarity in VFX workflow pipeline
5. Student will be able to apply the After Effects tools to create stunning visuals

Unit 1	Introduction	L	T	P
1.1	Fundamentals of Visual Effects(VFX) (Lecture, Discussion)	1	1	1
1.2	Photographic principles, Forced perspective: theory (Lecture, Discussion)	1	1	1
1.3	Visual Effects Hardware (Lecture, Practice)	1	1	1
1.4	Visual Effects Software - Adobe After Effects, 3Ds Max, Cinema 4D –Maxon, Maya, Flame Autodesk, Boujou, Nuke, Mocha (Lecture, Practice)	1	1	1
1.5	Visual EffectsVs Computer Generated Imagery (Lecture, Practice)	1	1	1

Unit 2	VFX Tools and Techniques-1	L	T	P
2.1	Rotoscoping (Lecture, Practice)	1	1	1
2.2	Compositing (Lecture, Practice)	1	1	1
2.3	Matte Paintings (Lecture, Practice)	1	1	1
2.4	Rigging , Digital Sculpture (Lecture, Practice)	1	1	1

2.5	Motion Capturing (Lecture, Practice)	1	1	1

Unit 3	**VFX Tools and Techniques**-2	**L**	**T**	**P**
3.1	Special Vs Visual Effects, Basic tools Rear Projection , Stop Motion Animation (Lecture, Practice)	1	1	1
3.2	Planning a visual effect – Storyboards, pre-viz, Planning workflows (Lecture, Practice)	1	1	1
3.3	Modern tools Models, Miniatures, Green Screen, Motion Control (Lecture, Practice)	1	1	1
3.4	The VFX Pipeline - Planning & Management. Job specialization (Lecture, Practice)	1	1	1
3.5	Computer Generated Images. Motion Capture, Performance capture (Lecture, Practice)	1	1	1

Unit 4	**After Effects -1**	**L**	**T**	**P**
4.1	After Effects –Interface (Lecture, Practice)	1	1	1
4.2	Basic Animation. Basic Rendering (Lecture, Practice)	1	1	1
4.3	Advanced Animation Anchor point, Keyframes, Motion Sketch (Lecture, Practice)	1	1	1
4.4	Transparency –Masks, Pen tool, Painting, Puppet (Lecture, Practice)	1	1	1
4.5	Time & Layer control (Lecture, Practice)	1	1	1

Unit 5	**After Effects-2**	**L**	**T**	**P**
5.1	Setting up a composition (Lecture, Practice, Assignment)	1	1	1
5.2	Working with layers (Lecture, Practice, Assignment)	1	1	1
5.3	Animating compositions (Lecture, Assignment, Practice)	1	1	1
5.4	Applying effects, including lights (Lecture, Practice, Assignment)	1	1	1
5.5	Working in 3D, Rendering project (Lecture, Practice, Assignment)	1	1	1
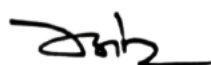
Practical/Projects/Assignments:
1. Create Matte Paintings.
2. Explore Create Stunts, explosions, water, fire safety.
3. Modern tools Models, Miniatures, Green Screen, Motion Control.
4. Plan VFX Pipeline - Planning & Management. Job specialization.
5. Creating a Basic animation using effects and Pre-sets.
6. Working with shape Layers.
7. Building 3D objects.
8. Polishing and Finishing Portfolio.

Suggested Readings:
1. The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers Paperback –2017, by Eran Dinur
2. The Visual Effects Producer: Understanding the Art and Business of VFX Paperback –2009 by Charles Finance, Susan Zwerman
3. Visual Effects and Compositing Paperback – Import, 2014 by Jon Gress
4. The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures Paperback –2014 by Jeffrey A. Okun VES (Editor), Susan Zwerman VES

E-Resources:
1. After Effects Apprentice - Real World Skills for the Aspiring Motion Graphics Artist, Publisher: Focal Press; 3rd edition (August 23, 2012), ISBN-13: 978-0240817361
2. https://www.oscars.org/sites/oscars/files/complete_visual_effects_activities_guide.pdf
3. The VES handbook of Visual Effects 2010 Visual Effects Society. Published by Elsevier Inc available at http://www.varmstudio.com/stuff/miisu/VES.pdf

(NMC14) Project & Portfolio Management

Theory	-	Practical	80	Internal	20	Credits	5

Course Objectives
1. To Understand the basic concepts of portfolio management
2. To learn how to do layouts for print based portfolios and do revisions
3. To understand reel based portfolio projects
4. To Understand returns, risks and types of portfolio management
5. To create resume and digital portfolios on websites

Course Outcomes
1. Student will be able to understand the various theoretical aspects of portfolio management
2. Student will be able to upload print based portfolio on websites and create a resume
3. Student will be able to assess risks, returns and evaluation for portfolio management
4. Student will be able to create a video/reel based project
5. Student will be able to create a digital print based portfolio

Unit 1	Portfolio Management	L	T	P
1.1	Meaning, Concept, Importance and Overview of Portfolio (Lecture, Discussion, Practical)	-	1	2
1.2	Selecting and compiling projects into folders (Lecture, Participation)	-	1	2
1.3	Developing cover page, index page, header and footer (Lecture, Discussion, Practical)	-	1	2
1.4	Understanding target market of portfolios and researching various layouts (Lecture, Discussion)	-	1	2
1.5	Factors influencing Portfolio Management (Lecture, Quiz)	-	1	2

Unit 2	Print based Portfolio Project	L	T	P
2. 1	1st project- (print based) Making various layouts for print media (Lecture, Assignment)	-	1	2
2.2	Cover design, content design, layout design (Lecture, Discussion, Practical)	-	1	2
2.3	Placing content inside layouts (Lecture, Discussion)	-	1	2

2.4	Portfolio revision – need –factors (Lecture, Discussion, Practical)	-	1	2
2.5	Revision and addition/ subtraction of content (Lecture, Discussion)	-	1	2

Unit 3	Reel / Video based Portfolio Project	L	T	P
3.1	2nd Project- Reel / video based portfolio project Understanding of various softwares used in making videos (Lecture, Discussion, Practical)	-	1	2
3.2	Scripting a storyline for project (Lecture, Quiz, Assignment)	-	1	2
3.3	Selecting animations and small video clips (Lecture, Assignment)	-	1	2
3.4	Understanding frames, addition and subtraction of content (Lecture, Discussion, Practical)	-	1	2
3.5	File saving, conversion, formats (Lecture, Assignment)	-	1	2

Unit 4	Portfolio Risks	L	T	P
4.1	Concept of risks in portfolio (Lecture, Discussion, Practical)	-	1	2
4.2	Concept of returns in portfolio (Lecture, Discussion)	-	1	2
4.3	Portfolio Market Risk and Unique Risk (Lecture, Discussion)	-	1	2
4.4	Types of Portfolio Management (Lecture, Discussion, Practical)	-	1	2
4.5	Concept of portfolio analysis and diversification of risk (Lecture, Discussion)	-	1	2

Unit 5	Developing Resume and Website Presence	L	T	P
5.1	Selection of clear photo, Designing layout for resume Adding – Skills, Achievements (Lecture, Discussion)	-	1	2
5.2	Input content- Software knowledge, internships, any work experience, address, contact information, email address (Lecture, Assignment , In Class Exercise)	-	1	2
5.3	Software knowledge, internships, any work experience, address, contact information, email address (Lecture, Discussion, Practical)	-	1	2
5.4	Online portfolio- egs, linkedin, glassdoor, indeed, etc. Development of profile page and filling right details (Lecture, Discussion, Practical)	-	1	2
5.5	Uploading the digital portfolio projects Creation of safe passwords and backups of online portfolios (Lecture, Discussion)	-	1	2

Practical/ Projects/ Assignments:
1. Define the concept of project, portfolio, and program in the context of Project Management (between 900 and 1,000 words)
2. Explain the hierarchical relationship among the concept of project, portfolio, and program (at least 500 words)
3. Web Page development of your own professional portfolio
4. Professional resume with personal statement
5. Online presence (LinkedIn, e.g.)
6. Print based portfolio (booklet / file)
7. Developing a video/reel project
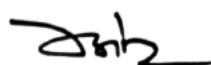
Suggested Readings:
1. Jordon, Fisher," Security Analysis and Portfolio Management", 6 th Ed. Phi-New Delhi-110001
2. Belgrad, S., Burke, K and Fogarty. R. 2008. The Portfolio Connection. 3rd ed. Thousand Oaks, CA: Corwin Press, A Sage Publications Company
3. Ranganathan M. and Madhumathi R., Security Analysis and Portfolio Management, Pearson, 2012 (2/e)
4. Kevin S., Security Analysis and Portfolio Management, PHI Learning 2015 (2/e)
5. Chandra, P., Investment Analysis and Portfolio Management, Tata McGraw Hill, 2017

6. Bhalla V.K., Investment Management, S. Chand, (19/e)
7. Fischer D. E., Security Analysis and Portfolio Management, Pearson education, 1995

E-Resources:
1. https://www.youtube.com/watch?v=-SHKkhxkAuw
2. https://www.youtube.com/watch?v=j8obKof2MDM
3. https://www.youtube.com/watch?v=O5zYJkTFlZs&t=34s
4. https://www.youtube.com/watch?v=TRJO1R16XQg

NME-2(A) Digital Film Making

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives

1. To learn and introduce the key concepts of digital film making
2. To introduce and understand the digital film making equipments and allied operations
3. To develop the concept of cinematography in digital film making
4. To develop the concept of film production process
5. To learn about post production techniques for digital film

Course Outcomes

1. Student will be able to develop an understanding of the digital film making
2. Student will be able to identify digital film making equipments used in various stages
3. Student will be able to identify and apply the various aspects of cinematographic techniques for digital film
4. Student will be able to enhance their technical skills to produce a digital film
5. Student will be able to gain skills to use digital editing software for post production

Unit 1	Basics of Film Making	L	T	P
1.1	Film and society (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.2	Concept of film Making (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.3	Elements of film (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.4	Script for film (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.5	Pre-Production (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 2	Introduction to Film Making Equipments & Operation	L	T	P
2.1	Anatomy of DSLR camera and digital camcorder &advanced camera stabilizer in film making (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.2	Types of lens & Filters :-prime/block lens, zoom lens, fisheye lens, micro lens, ND filter, Primary colour filter, star filter, polarizing filter (Lecture, Discussion, Practice, Demonstration, Assignment,	1	1	1

	Presentation, Practical)			
2.3	Different types of lighting fixtures(source):- Fresnel spot light, HMI, PAR, keno, ellipsoidal reflector light, soft box, led panel , cool lights (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.4	Basic three point lighting, lighting for one character, lighting for moving character, lighting for more than one character (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.5	Different types of microphone & pickup pattern (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 3	Cinematography	L	T	P
3.1	Visual grammar: Image size, Frame, Shot, Scene, Sequence, etc. (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.2	Vantage point, Camera Angle (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.3	Camera movement (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.4	Continuity, eye line, crossing the line, point of view (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.5	Pacing: Slow, medium, fast (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 4	Film Production	L	T	P
4.1	Selection of equipment for single camera production (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.2	Single camera production techniques (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.3	Selection of equipment for multi camera production (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.4	Multi camera production techniques (Lecture, Discussion, Practice, Demonstration, Assignment,	1	1	1

	Presentation, Practical)			
4.5	Outdoor/ Indoor shooting Techniques (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 5	Post Production of Digital Film	L	T	P
5.1	Audio Production:-Foley Artist, background music, dialog, narration (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.2	Editing using Editing Software (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.3	Colour Correction (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.4	VFX (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.5	Titles and Effects Finishing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Practical/Projects/Assignments:

1. Action Shot sequence practice
2. Develop the outdoor scene
3. Action Continuity practice
4. Plan a small Project of Digital Film
5. Prepare Social Documentary and Advertising
6. Any Assignment given by concerned faculty
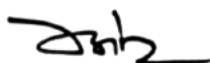
Suggested Readings:

1. Digital film making handbook - Ben Long, Sonja Schenk, Charles River Media, 2002
2. The IFILM digital video filmmaker's handbook-, Volume 1-Maxie D. Collier, Lone Eagle Pub., 2001
3. The Digital producer - getting it done with computer-based tools, Volume 1-Curtis Poole, Ellen Feldman, Focal Press, 2000
4. Motion Picture Camera Techniques by David Samuelson, Focal Press; 2nd Edition (November 20, 1984)
5. The Hands On Manual for Cinematographers by David Samuelson, CRC Press, 2014
6. The Professional Lighting Handbook by Verne Carlson, Focal Press, 1991

E-Resources:

1. http://www.film-foundation.org/Making-Movies-Manual.pdf
2. https://www.apple.com/education/docs/Apple-Moviemakingcurriculum.pdf
3. http://ommolketab.ir/aaf-lib/ekwbw6my4nt8rv94aki2xjucgdwssy.pdf
4. https://www.vidyard.com/blog/how-to-make-a-documentary/

NME-2(B) Basics of Research

| Theory | 80 | Practical | - | Internal | 20 | Credits | 5 |

Course Objective

1. To learn Research and the Research Process, Ethics, Integrity and Critical appraisal
2. To learn Quantitative Research, Study Designs and Methods, Analysis, Interpretation of Quantitative Data and Critical Appraisal of Quantitative Research
3. To learn Qualitative Research, Study Designs and Methods, Analysis, Interpretation of Qualitative Data and Critical Appraisal of Qualitative Research
4. To learn Mixed Methods Research, Study Designs and Methods, Analysis and Interpretation of Mixed Methods Data, and Critical Appraisal of Mixed Methods Research
5. To learn about the Interpretation and Report Writing

Course Outcomes

1. Student will be able to understand research terminology
2. Student will be able to aware of the ethical principles of research, ethical challenges and approval processes
3. Student will be able to describe quantitative, qualitative and mixed methods approaches to research
4. Student will be able to identify the components of a literature review process
5. Student will be able to critically analyze published research

Unit 1	Foundations of Research	L	T	P
1.1	Introduction to Research, Science of Research, Basic concepts of Research, Methods of Knowing, Positivism of Research, Origin and growth of Communication Research	2	1	-
1.2	Objectives of Research, Significance and Utility of Research	2	1	-
1.3	Elements of Research- Concepts and Constructs, Variables- Continuous and Discrete; Independent and Dependent; Extraneous and Confounding	2	1	-
1.4	Levels of Measurement: Nominal; Ordinal; Interval and Ratio (NOIR) Nature of Measurement	2	1	-
1.5	PAPA Model of Research, Stages of Research with examples	2	1	-

Unit 2	Measurement and Sampling	L	T	P
2.1	Concept of Measurement and Assessment, Similarities and Differences between the two	2	1	-
2.2	Problems of Measurement in Research	2	1	-
2.3	Sample, Population and Universe: Meaning, Definition and Characteristics	2	1	-
2.4	Determining size of the sample – Practical considerations in sampling and sample size	2	1	-
2.5	Types of Sampling: Probability Sampling and its types; Non-probability Sampling and its types	2	1	-

Unit 3	Types of Research-I	L	T	P
3.1	Experimental, Quasi experimental and Non-experimental	2	1	-
3.2	Control group and Experimental group, Placebo effect, Control of Variables	2	1	-
3.3	Hypothesis: Meaning, Definition and types	2	1	-
3.4	Hypothesis testing in Research	2	1	-
3.5	Type-I and Type-II error, Alpha error and Beta error	2	1	-

Unit 4	Types of Research-II	L	T	P
4.1	Quantitative Research: Meaning, Definition and types	2	1	-
4.2	Quantitative Research: Meaning, Definition and types	2	1	-
4.3	Descriptive & Exploratory Research	2	1	-
4.4	Longitudinal Research and Panel studies	2	1	-
4.5	Ethical Issues in Research	2	1	-

Unit 5	Data Analysis and Research Report Writing	L	T	P
5.1	Data Analysis: Meaning and Significance in research, Descriptive and Inferential Statistics, Parametric and Non-parametric Statistics	2	1	-
5.2	Descriptive Statistics: Measures of Central tendency (Mean, Median, Mode) and Measures of Variability (Range, Average deviation, Quartile Deviation, Standard Deviation)	2	1	-
5.3	t-test, Correlation (Spearman's Rank Order Correlation & Pearson's Product Moment Correlation), One-way ANOVA	2	1	-
5.4	Reliability and Validity: Meaning, Definition, Significance in research and types	2	1	-
5.5	Steps in Research Report Writing, Plagiarism: Meaning, Definition, Significance in research and types, Introduction to SPSS and R software	2	1	-
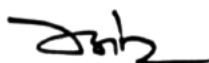
Practical/Projects/Assignments:
1. Prepare a research paper
2. Apply data analysis test on given data
3. Prepare the analysis report of data
4. Prepare research report
5. Handle the Supporting software like plagiarism

Suggested Readings:
1. Business Research Methods – Alan Bryman & Emma Bell, Oxford University Press.
2. Research Methodology – C.R.Kothari 4. Select references from the Internet
3. Creswell, J. W. Research design: Qualitative, Quantitative and Mixed Methods Approaches. 5th Ed. Thousand Oaks, CA: Sage, 2018. ISBN: 978-1-5063-8670-6
4. Qualitative Research Methods for Media Studies: By Bonnie S. Brennen, Year 2017
5. Gerard Guthrie (2015). Basic Research Methods: An Entry to Social Science Research. SAGE Publications.
6. Fred N. Kerlinger. Foundations of Behavioural Research. Surjeet Publications
7. A.K. Singh (2012). Tests Measurements and Research Metrhods in Behavioural Sciences. Bharti Bhavan Publications.
8. Roger D. Wimmer & Joseph R. Dominick (2016). Mass Media Research: An Introduction. Cengage Publications.

E-Resources:
1. https://www.researchgate.net/publication/333015026_Chapter_3_-_Research_Methodology_and_Research_Method
2. http://imsaif.yolasite.com/resources/Basic%20Research%20Paper%20Writing.pdf
3. https://www.slideshare.net/AzamShams/basics-of-49818562

(NMG04) Augmented and Virtual Reality

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Courses Objectives
1. To understand the concepts of AR and VR
2. To know the AR VR Input Devices
3. To learn basic features of Tactile and Force Feedback Devices
4. To learn applications of AR VR devices in different sectors
5. To understand the future of AR VR and its different aspects

Courses Outcomes
1. Student would have clarity on fundamentals of AR and VR
2. Student would have awareness of AR VR Input Devices working
3. Student can use different AR VR Input Output Devices
4. Student can apply appropriate AR VR devices in various situations
5. Student can visualize future of AR VR in different fields

Unit 1	Introduction to AR and VR	L	T	P
1.1	Computer Generated Worlds, Introduction of Augmented Reality (Lecture, Tutorial)	1	1	1
1.2	Introduction of Virtual Reality, Understanding Virtual Space (Lecture, Tutorial)	1	1	1
1.3	Defining Visual Space and Content (Lecture, Tutorial)	1	1	1
1.4	Defining Position and Orientation in Three Dimensions (Lecture, Tutorial)	1	1	1
1.5	Navigation (Lecture, Tutorial)	1	1	1
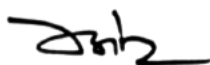
Unit 2	Input/ Output Devices- I	L	T	P
2.1	Technologies of Head-Mounted Displays (Lecture, Practical, Demonstration)	1	1	1
2.2	Augmenting Displays (Lecture, Practical, Demonstration)	1	1	1
2.3	Fully Immersive Displays (Lecture, Practical, Demonstration)	1	1	1
2.4	The Mechanics of Hearing	1	1	1

	(Lecture, Practical, Demonstration)			
2.5	Audio Displays (Lecture, Practical, Demonstration)	1	1	1

Unit 3	Input/ Output Devices- II	L	T	P
3.1	The Mechanics of Feeling (Lecture, Practical, Demonstration)	1	1	1
3.2	Tactile Feedback Devices (Lecture, Practical, Demonstration)	1	1	1
3.3	Force Feedback Devices (Lecture, Practical, Demonstration)	1	1	1
3.4	Sensors for Tracking Position, Orientation, and Motion (Lecture, Practical, Demonstration)	1	1	1
3.5	Devices to Enable Navigation and Interaction (Lecture, Practical, Demonstration)	1	1	1

Unit 4	Applications of AR and VR	L	T	P
4.1	Architecture and Construction, Science and Engineering (Lecture, Tutorial, Demonstration)	1	1	1
4.2	Gaming and Entertainment, Graphics (Lecture, Tutorial, Demonstration)	1	1	1
4.3	Health and Medicine, Aerospace and Defense (Lecture, Tutorial, Demonstration)	1	1	1
4.4	Education, Information Control and Big Data Visualization (Lecture, Tutorial, Demonstration)	1	1	1
4.5	Telerobotics and Telepresence, Media and Journalism (Lecture, Tutorial, Demonstration)	1	1	1

Unit 5	Future and different Aspects of AR and VR	L	T	P
5.1	The Future of AR and VR (Lecture, Tutorial)	1	1	1
5.2	Human Factors Considerations (Lecture, Practical, Demonstration)	1	1	1

5.3	Legal Considerations (Lecture, Tutorial)	1	1	1
5.4	Social Considerations (Lecture, Tutorial)	1	1	1
5.5	Moral and Ethical Considerations (Lecture, Tutorial)	1	1	1

Practical/Project/Assignments:
1. Work and understand the Technologies of Head-Mounted Displays
2. Work and understand the Technologies of Tactile Feedback Devices
3. Work and understand the Technologies of Force Feedback Devices
4. Work and understand the Technologies of Fully Immersive Displays
5. Work and understand the Technologies of Augmenting Displays

Suggested Readings:

1. Gerard Jounghyun Kim, Designing Virtual Reality Systems, the Structured Approach, Springer London, 2005

2. Grigore C Burdeaabd Philippe Coiffet, Virtual Reality Technology, 2nd Eds., Wiley Interscience, 2003

3. John Vince, Introduction in Virtual Reality, Springer, 2004

4. Alan B Craig, William R Sherman and Jeffrey D Will, Developing Virtual Reality Applications: Foundations of Effective Design, Morgan Kaufmann, 2009

5. Doug A Bowman, Ernest Kuijff, Joseph J LaViola, Jr and Ivan Poupyrev, 3D User Interfaces, Theory and Practice, Addison Wesley, USA, 2005

6. Oliver Bimber and Ramesh Raskar, Spatial Augmented Reality: Meging Real and Virtual Worlds, 2005

7. Burdea, Grigore C and Philippe Coiffet, Virtual Reality Technology, Wiley Interscience, India, 2003

8. Alan B. Craig, Understanding Augmented Reality, Concepts and Applications, Morgan Kaufmann, 2013

E Resources:
1. https://www.forbes.com/sites/bernardmarr/2019/07/19/the-important-difference-between-virtual-reality-augmented-reality-and-mixed-reality/#7a539db335d3
2. https://in.pcmag.com/consumer-electronics/109911/augmented-reality-ar-vs-virtual-reality-vr-whats-the-difference
3. https://edu.gcfglobal.org/en/thenow/understanding-virtual-reality-and-augmented-reality/1/

Completion of Fourth Year: Option I - Bachelor of Science: Multimedia (Honors) (4 Years) (160 Credits)

Semester VII

(NMC15) Multimedia Databases

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To understand the basic concept of database management systems
2. To understand the multimedia database system
3. To learn about text/document databases
4. To learn about image database and its processing
5. To learn about video and audio databases

Course Outcomes
1. Student will be able to identify basic concept of database management systems
2. Student will have knowledge of multimedia database system
3. Student will be able to work on text/document databases
4. Student will be able to process image database
5. Student will have clear understanding of video and audio databases

Unit 1	Basics of Database Management Systems	L	T	P
1.1	Database Management Systems- Relational Model- SQL (Lecture, Discussion, Practice)	1	1	1
1.2	Functional Dependencies- Normal Forms- Multivalued Dependencies (Lecture, Discussion, Practice)	1	1	1
1.3	Join Dependencies- Examples- An introduction to Object oriented Databases (Lecture, Discussion, Practice)	1	1	1
1.4	Introduction to Multidimensional Data Structures: k-d Trees, Point Quadtrees (Lecture, Discussion, Practice)	1	1	1
1.5	The MX- Quadtree, R- Trees (Lecture, Discussion, Practice)	1	1	1

Unit 2	Multimedia Databases	L	T	P
2.1	Database System in Multimedia (Lecture, Discussion, Practice)	1	1	1
2.2	Design and Architecture of a Multimedia Database (Lecture, Discussion, Practice)	1	1	1
2.3	Organizing Multimedia Data based on the Principle of Uniformity (Lecture, Discussion, Practice)	1	1	1
2.4	Media Abstractions (Lecture, Discussion, Practice)	1	1	1
2.5	Query languages for Retrieving Multimedia Data (Lecture, Discussion, Practice)	1	1	1

Unit 3	Text/Document Databases	L	T	P
3.1	Precision and Recall (Lecture, Discussion, Practice)	1	1	1
3.2	Stop Lists (Lecture, Discussion, Practice)	1	1	1
3.3	Word Stems and Frequency Tables (Lecture, Discussion, Practice)	1	1	1
3.4	Latent Semantic Indexing (Lecture, Discussion, Practice)	1	1	1
3.5	TV- Trees, Other Retrieval Techniques (Lecture, Discussion, Practice)	1	1	1

Unit 4	Image Databases	L	T	P
4.1	Raw Images, Compressed Image Representations (Lecture, Discussion, Practice)	1	1	1
4.2	Image Processing: Segmentation, Similarity based Retrieval (Lecture, Discussion, Practice)	1	1	1
4.3	Alternative Image DB Paradigms, Representing Image DBs with Relations (Lecture, Discussion, Practice)	1	1	1
4.4	Representing Image DBs with R- Trees (Lecture, Discussion, Practice)	1	1	1

| 4.5 | Retrieving Images by Spatial Layout, Implementations (Lecture, Discussion, Practice) | 1 | 1 | 1 |

Unit 5	Video and Audio Databases	L	T	P
5.1	Organising Content of a Single Video, Querying Content of Video Libraries (Lecture, Discussion, Practice)	1	1	1
5.2	Video Segmentations, Video Standards (Lecture, Discussion, Practice)	1	1	1
5.3	A general model of Audio Data (Lecture, Discussion, Practice)	1	1	1
5.4	Capturing Audio Content through Discrete Transformation (Lecture, Discussion, Practice)	1	1	1
5.5	Indexing Audio Data (Lecture, Discussion, Practice)	1	1	1

Practical/Projects/Assignments:
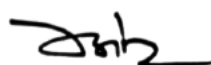
1. To Prepare Multimedia Database Structure.
2. To prepare Data Storage system.
3. To prepare the multimedia authoring base projects.
4. To design the Multimedia Application architecture.
5. To prepare the assignment of multimedia communication system.

Suggested Readings:

1. Fundamentals of Multimedia: *Ze-Nian Li & Mark S. Drew*, Pearson Prentice Hall, 2004.
2. Digital Filters: *Saeed Vaseghi*, excerpt from "Multimedia Signal Processing: Theory and Applications in Speech, Music and Communications", 2007, Wiley publisher.
3. Methods and Innovations for Multimedia Database Content Managemen, By Shu-Ching Chen, Mei-Ling Shyu · 2012.
4. Multimedia Database Management Systems; Guojun Lu, Artech House, 1999 and Digitalized 2009
5. Distributed Multimedia Database Technologies Supported by MPEG-7 and MPEG-2, *ByHarald Kosch* 2003

E-Resources:

1. http://www.cad.zju.edu.cn/home/zhx/DAM/2008/lesson04.pdf
2. https://www.w3spoint.com/multimedia-database-dbms
3. https://www.tutorialspoint.com/what-is-a-multimedia-database-dbms
4. https://www.oreilly.com/library/view/database-systems-concepts/9788177585674/9788177585674_ch21lev1sec4.html

NME03 (A) UI/UX Design

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To understand the basics of user interface
2. To understand the basics of user experience
3. To learn basic features of AdobeXD
4. To learn advance features of AdobeXD
5. To understand the different types of design techniques

Course Outcomes
1. Student would aware of interface design of product, UI widget and input devices
2. Student would aware of UX research methods and its elements
3. Student can create graphics using AdobeXD
4. Student can create project using AdobeXD
5. Student can use different design techniques in their project

Unit 1	Introduction to User Interface (UI)	L	T	P
1.1	Introduction to Interface Design in the areas of Product, Space and Communication Design (Lecture, Discussion)	1	1	1
1.2	Different types of Interfaces, Making the different Tangible and Intangible Interfaces user friendly (Lecture, Discussion)	1	1	1
1.3	Color, Form, Texture and Interface Design etc (Lecture, Discussion)	1	1	1
1.4	Study of Typography, Expressive Typography, Compositions with type, Calligraphic Experiments (Lecture, Discussion)	1	1	1
1.5	UI Widgets & Input Devices (Lecture, Discussion)	1	1	1

Unit 2	Introduction to User Experience (UX)	L	T	P
2.1	Introduction to UX, History, Present and Future of UX (Lecture, Discussion)	1	1	1
2.2	Introduction to UX Research Methods (Lecture, Discussion)	1	1	1
2.3	Introduction to Information Architecture and its importance (Lecture, Discussion)	1	1	1

2.4	Introduction to Lean UX (Lecture, Discussion)	1	1	1
2.5	The Elements of User Experience (Lecture, Discussion)	1	1	1

Unit 3	**Adobe XD-I**	**L**	**T**	**P**
3.1	Introduction to Adobe Experience Design (XD), Understanding common file formats, Working with the Design and Prototype views, Navigating around the User Interface (Lecture, Discussion, Practice)	1	1	1
3.2	Setting up a Project-Creating Art boards, Arranging, editing and deleting Art boards (Lecture, Discussion, Practice)	1	1	1
3.3	Creating additional screens for different display sizes and platforms, Adding layout and square grids (Lecture, Discussion, Practice)	1	1	1
3.4	Creating Graphics in Adobe Experience Design-Creating and combining simple shapes, Setting appearance attributes, Controlling corner radius values, Solid fill colors, Gradient fills, Strokes, Adding drop-shadows & background Blurs (Lecture, Discussion, Practice)	1	1	1
3.5	Drawing with the Pen Tool, Editing points and paths, Creating and editing symbols, Linked symbols, Create and Format Text using Type kit fonts, Saving Character Styles (Lecture, Discussion, Practice)	1	1	1

Unit 4	**Adobe XD –II**	**L**	**T**	**P**
4.1	Adding Assets from other Sources- Importing Images, Importing SVG files, Masking Techniques, Open a layered Adobe Photoshop file, Using Illustrator vector graphics (Lecture, Discussion**,** Practice)	1	1	1
4.2	Prototyping- Wireframes to Interactive Prototypes, Link and Unlink Screens, Setting Screen Triggers, Adding Interactions to Elements, Adjusting easing and duration properties (Lecture, Discussion**,** Practice)	1	1	1
4.3	Auto- Animate, Timed Animation Transitions, Prototype drag gestures, Overlays for side menus and Keyboards, Preserve Scrolling, Fixed Elements, Voice Triggers and Speech Commands (Lecture, Discussion**,** Practice)	1	1	1
4.4	Testing your Project- Previewing designs in the preview window or on mobile device, Recording the user experience as a .mov file	1	1	1

	(Lecture, Discussion, Practice)			
4.5	Sharing your Project- Share a public or private prototype, Allow comments and hotspots, Publish design Specs, Extract and download Asserts for developers (Lecture, Discussion, Practice)	1	1	1

Unit 5	Design Techniques and UI/UX Evaluation	L	T	P
5.1	Scenarios, Personas, Storyboards, Wire Framing, Information Architecture, Brain Storming, Card Sort (Lecture, Discussion)	1	1	1
5.2	Prototyping Tools, Both Low-Fidelity and High-Fidelity, Wizard of Oz Prototypes, Proof Concept Video and Metaphor Development (Lecture, Discussion)	1	1	1
5.3	Introduction to Various Methods of Evaluation- Formative Evaluation and Summative Evaluation, Implicit Methods and Explicit Methods (Lecture, Discussion)	1	1	1
5.4	Evaluation Design Use and Design Usable, Design Learnability and Design Memorability (Lecture, Discussion)	1	1	1
5.5	Evaluating user satisfaction- Cognitive Measure, Mental Effort Emotional Measures- Feelings Experienced (Lecture, Discussion)	1	1	1

Practical / Projects/Assignments:
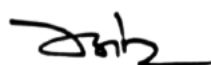
1. Discuss about different types of user interface for different devices in group
2. Assignment on elements of User Experience
3. Create different types of Graphics using AdobeXD
4. Designing UI for Mobile Screen in AdobeXD
5. Designing UI for Web Screen in AdobeXD

Suggested Readings:

1. The Design of Everyday Things, Basic Book by Norman, Donald A, 2002, ISBN: 9780465067107
2. Designing the User Interface: Strategies for Effective Human Computer Interaction by Shneiderman, Ben, and Catherine Plaisant, 4th edition Addison Wesley, 2004, ISBN: 9780321197863
3. Human-Computer Interaction by Dix, Alan J, Janet E Finlay, 2nd edition, 1998, Prentice Hall, ISBN: 9780132398640
4. User Interfaces (Interactive Technologies) by Olsen, Dan R Developing Morgan Kaufmann, 1998 ISBN: 9781558604186
5. Adobe XD Classroom in a Book by Brian Wood, 2020, Macromedia Press ISBN: 0136583806

E-Resources:

1. User Interface accessed at https://www.tutorialspoint.com/software_architecture_design/user_interface.htm
2. User Interface Design accessed at https://www.javatpoint.com/software-engineering-user-interface-design
3. Learn basic UI Design accessed at https://www.freecodecamp.org/news/learn-ui-design-in-5-minutes-tutorial/
4. Software User Interface Design accessed at https://www.tutorialspoint.com/software_engineering/software_user_interface_design.htm
5. What Is UX Design accessed at https://careerfoundry.com/en/tutorials/ux-design-for-beginners/what-is-ux-design/
6. Adobe XD tutorials accessed at https://helpx.adobe.com/in/xd/tutorials.html
7. The Ultimate Guide to Adobe XD Tutorials accessed at https://www.mockplus.com/blog/post/adobe-xd-tutorial
8. Adobe XD Tutorials For Learning UI/UX Designers accessed at https://www.vandelaydesign.com/free-adobe-xd-tutorials/
9. Adobe XD Tutorials (Beginner to Advanced) accessed at https://designshack.net/articles/software/adobe-xd-tutorials/

NME03 (B) E Publishing

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives
1. To understand the basic concept of e publishing
2. To Understand the steps for publishing
3. To understand the production steps in publishing
4. To understand the language files
5. Interpret and analyse the concept of web to print

Course Outcomes
1. To differentiate traditional and e publishing.
2. To Analyze the steps of e publishing
3. Assess the production work flow
4. To analyze and Assess HTML and XML
5. Understanding web to print

Unit 1	Introduction to E Publishing	L	T	P
1.1	Publishing Concept-History, Definition (Lecture, Discussion, Presentation)	1	1	1
1.2	Area of Publishing ex. general, educational etc (Lecture, Discussion, Presentation)	1	1	1
1.3	Traditional book publishing vs. e publishing (Lecture, Discussion, Presentation)	1	1	1
1.4	Organizational Workflow (Lecture, Discussion, Presentation)	1	1	1
1.5	Application advantage and disadvantage (Lecture, Discussion, Presentation)	1	1	1

Unit 2	Steps for Publishing	L	T	P
2.1	Editing the text (Lecture, Discussion, Presentation)	1	1	1
2.2	Creating cover and Design (Lecture, Discussion, Presentation)	1	1	1
2.3	ISBN,ISSN or other registration (Lecture, Discussion, Presentation)	1	1	1
2.4	Legal aspects and copyright (Lecture, Discussion, Presentation)	1	1	1
2.5	Marketing (Lecture, Discussion, Presentation)	1	1	1

Unit 3	Production pipeline	L	T	P
3.1	PDF conversion using Indesign (Lecture, Discussion, Presentation)	1	1	1
3.2	PDF conversion using distiller (Lecture, Discussion, Presentation)	1	1	1
3.3	PDF conversion using Quark (Lecture, Discussion, Presentation)	1	1	1
3.4	Copy editing (Lecture, Discussion, Presentation)	1	1	1
3.5	Proof reading marks (Lecture, Discussion, Presentation)	1	1	1

Unit 4	Working with HTML and XML	L	T	P
4.1	Introduction to HTML (Lecture, Discussion, Presentation)	1	1	1
4.2	Introduction to XML (Lecture, Discussion, Presentation)	1	1	1
4.3	Tags for HTML and XML (Lecture, Discussion, Presentation)	1	1	1
4.4	Steps for creating HTML documents (Lecture, Discussion, Presentation)	1	1	1
4.5	Steps for creating XML document (Lecture, Discussion, Presentation)	1	1	1

Unit 5	Web to Print	L	T	P
5.1	Introduction (Lecture, Discussion, Presentation)	1	1	1
5.2	Work flow (Lecture, Discussion, Presentation)	1	1	1
5.3	Network concepts (Lecture, Discussion, Presentation)	1	1	1
5.4	Network interface (Lecture, Discussion, Presentation)	1	1	1
5.5	Recent trends in e publishing (Lecture, Discussion, Presentation)	1	1	1
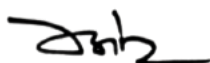
Practical/Projects/Assignments:
1. Study the concept of conventional and e publishing.
2. Study of e publishing file formats and compatibility.
3. Study and analyze the parts of ISBN and ISSN numbers.
4. Creation of e pub file using Quark.
5. Creating file using InDesign.
6. Steps involved in HTML and XML documents creation.
7. Study and analyze copy editing symbols and Marks

Suggested Readings:
1. The Multiplatform Publishing Strategy Handbook , Mequoda Handbooks, 2004
2. Digital Printing On demand Printing- Howard M. Fen ten, Frank J. Romano, Publisher: Printing Industries Press; 2 edition (March 1997)
3. Handbook of Print media: Technologies and production methods -HelmntKippahan Publisher: Springer; 2001 edition (September 21, 2001) ISBN-10: 354067326
4. Epstein, Jason. Book Business: Publishing Past, Present, and Future.
5. Art and Print Production - N.N Sarkar.

E-Resources:
1. https://learn.marsdd.com/article/e-publishing/
2. http://www.insightmedia.info/reports/2010ebr_details.php
3. http://www.mequoda.com/free-reports/multiplatform-publishing
4. https://www.w3.org/2014/Talks/0529-NYC-IH/Talk.pdf

(NMG05) Social Media Data Analytics

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives

1. Learn the basics of Data Analytics
2. To understand the different ways of collecting and extracting Social Media Data
3. Analyzing the extracted data using Statistical functions
4. Applying Sentiment analysis on the extracted data using R and Python
5. Visualizing the Data to Explore new trends, patterns and correlations

Course Outcomes

1. Student can collect data from different social media sources such as YouTube, Twitter/Facebook
2. Student can Utilize various Application Programming Interface (API) services to collect data from different social media sources
3. Student can Process the collected data - primarily structured - using methods involving correlation, regression, and classification to derive insights about the sources and people who generated that data
4. Student can analyze the unstructured data - primarily textual comments
5. Student can Use different tools for collecting, analyzing, and exploring social media data for research and development purposes

Unit 1	Introduction to Data Analytics	L	T	P
1.1	Concepts of Social Media Data (Discussion, Assignment)	1	1	1
1.2	Concepts of Social Media Data Analytics (Discussion, Participation)	1	1	1
1.3	Kinds of Data - Structured and Unstructured (Discussion, Practice)	1	1	1
1.4	Analysis of Structured data and its benefits (Discussion, Practice, Assignment)	1	1	1
1.5	Visualizations for exploring and presenting data (Discussion, Quiz)	1	1	1

Unit 2	Collecting and Extracting Social Media Data	L	T	P
2.1	Collecting data from Twitter and YouTube, Facebook (Discussion, Practice, Assignment)	1	1	1
2.2	Introduction to Python programming (Discussion, Practice, Assignment)	1	1	1
2.3	Use of Python script (Discussion, Practice)	1	1	1
2.4	Use of Python script editing, to extract data from Twitter (Discussion, Practice)	1	1	1

| 2.5 | Use of Python script editing, to extract data from YouTube (Discussion, Group activity) | 1 | 1 | 1 |

Unit 3	**Data Analysis, Visualization, And Exploration-I**	**L**	**T**	**P**
3.1	Analyzing the data from various social media services (Discussion, Practice)	1	1	1
3.2	Basics of Data Analysis (Discussion, Practice, Assignment)	1	1	1
3.3	Statistical Analysis – correlation, regression and classification (Discussion, Practice, Quiz)	1	1	1
3.4	Analysis of Structured data (Discussion, Assignment)	1	1	1
3.5	Using the data collected from YouTube for Statistics Analysis (Discussion, Practice)	1	1	1

Unit 4	**Data Analysis, Visualization, and Exploration-II**	**L**	**T**	**P**
4.1	Statistical Analysis Using R (Discussion)	1	1	1
4.2	Analysis of Unstructured data (Practice)	1	1	1
4.3	Sentiment Analysis (Practice)	1	1	1
4.4	Basics of Data Visualization (Discussion, Practice)	1	1	1
4.5	Visualizing the data from various social media services (Discussion, Practice)	1	1	1

Unit 5	Case Studies	L	T	P
5.1	Case Study 1: Using Twitter, focus on unstructured data (in this case, text) (Discussion, Practice)	1	1	1
5.2	Case Study 1: Using Twitter, Sentiment Analysis with Python (Discussion, Practice)	1	1	1
5.3	Case Study 2: Basic text mining application using R (Discussion, Practice)	1	1	1
5.4	Case Study 2: Basic text mining application using R (Discussion, Practice)	1	1	1
5.5	Comparative study of tools used for Data Analysis, Visualization, and Exploration (Practice)	1	1	1

Practical/Projects/Assignments:
1. Installation and Configuration of Python and R
2. How to install new packages/libraries for Python and R
3. How to create developer accounts
4. What information to obtain to use the data collection APIs
5. Collecting data from Twitter and YouTube
6. Use of Python script editing, to extract data from Twitter and YouTube
7. Analyze the extracted Structured data
8. Analyze the extracted Unstructured data
9. Explore the different Data Visualization Patterns

Suggested Readings:
1. Social Media Analytics: Techniques and Insights for Extracting Business Value Out of Social Media by Matthew Ganis, AvinashKohirkar, 2016, Pearson Publishers, ISBN : 9789332578463
2. Learning Social Media Analytics with R by Raghav Bali, Dipanjan Sarkar, Tushar Sharma, May 2017, Packt Publishing, ISBN: 9781787127524

E-Resources:
1. Social Media Data Analytics accessed at https://www.upa.it/static/upload/the/the-fundamentals-of-social-media-analytics.pdf
2. Social Media Data Analytics accessed at
https://ptgmedia.pearsoncmg.com/images/9780133892567/samplepages/9780133892567.pdf

(NMC16) Internship/Project

| Theory | - | Practical | 80 | Internal | 20 | Credits | 5 |

* Guidelines for Project/ Internship/ Dissertation/ Thesis will be communicated separately.

Semester VIII

(NMC17) Writing for New Media

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives

1. Introduce basic concepts of media writing
2. Introduce basic concepts of news writing
3. Learn the basics of writing for the web
4. Understanding the role and importance of blog writing
5. Understanding the role and importance of social media writing

Course Outcomes

1. Know the various theoretical aspects of media writing
2. Describe the framework of news writing
3. Know the various theoretical & practical aspects of writing for web
4. Know the various theoretical & practical aspects of blog writing
5. Learn the various aspects of social media writing

Unit 1	Principles of Media Writing	L	T	P
1.1	What is Media Writing (Discussion, Practical)	1	1	1
1.2	Media Writing as Communication (Demonstration, Participation)	1	1	1
1.3	Principles of Good Writing (Discussion, Practical)	1	1	1
1.4	Basic Tools of Writing (Demonstration, Lecture, Discussion)	1	1	1
1.5	Characteristics of Media Writings (Lecture, Quiz)	1	1	1

Unit 2	News Writing	L	T	P
2.1	What Makes a Good Introduction or Lead to a Story (Demonstration, Discussion, Practical)	1	1	1
2.2	The language of Journalism: Concrete, Specific, Active, Clear, Democratic, Non-Sexist, Non-Racist (Demonstration, Assignment)	1	1	1
2.3	Principles of News Writing (Demonstration, Assignment)	1	1	1
2.4	News Values, News Story, News Structure (Discussion, Practical)	1	1	1
2.5	Concept of Inverted Pyramid, Quotations and Back Grounding (Discussion, Assignment)	1	1	1

Unit 3	Writing for the Web	L	T	P
3.1	Writing and Editing Online (Assignment, Practical)	1	1	1
3.2	Characteristics of Web Writing & Online Storytelling Forms (Discussion, Practical)	1	1	1
3.3	Reporting, Writing and Structuring Succinct Feature Stories and Headlines for the Web (Discussion, Practical)	1	1	1
3.4	Multimedia and User-Generated Content, Gathering and Editing Images (Demonstration, Discussion, Practical)	1	1	1
3.5	Audio and Video-Tweets – Blogs – Citizen Journalism (Demonstration, Discussion)	1	1	1

Unit 4	Blog Writing	L	T	P
4.1	Selecting a Topic and Outline (Discussion, Practical, In Class Exercise)	1	1	1
4.2	Undertaking Related Research (Demonstration, Discussion)	1	1	1
4.3	Writing Headlines (Demonstration, Discussion)	1	1	1
4.4	Writing the Blog Draft & Rewriting/Editing the Blog Post (Demonstration, Discussion, Practical)	1	1	1
4.5	Optimizing the Blog Post (Discussion, In Class Exercise)	1	1	1

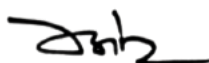| Unit 5	Writing Social Media Posts	L	T	P
5.1	Introduction to Social Media Posts (Class Exercise, Discussion)	1	1	1
5.2	Writing for Facebook Posts, Pages & Events (Demonstration, Assignment , In Class Exercise)	1	1	1
5.3	Writing for WhatsApp (Demonstration, Discussion)	1	1	1
5.4	Writing for Twitter & Instagram (Demonstration, Discussion, Practical)	1	1	1
5.5	Writing for Linkedin Pages (In Class Exercise, Discussion)	1	1	1

Practical/ Projects/ Assignments:

1. Blog posts can be short and sweet but should be at least a paragraph.
2. Write a News Story for any News Blog
3. Create Your Own Social Media Platforms & Write a least Ten Posts for Every Platforms
4. You can do an analysis of a big brand; compare their social media practices with the four areas of a SWOT analysis, and discuss what we can learn from this brand (In Writing Perspective)

Suggested Readings:

1. Batty Craig and Cain Sandra (2010), Media Writing: A Practical Introduction, Palgrave Macmillan.
2. Stovel G (2006) Writing for Mass Media, 6th edition, Allyn and Bacon.
3. Melvin Mencher (2006), News Reporting and Writing, 10th edition, McGraw-Hill.
4. Foust James, (2005), Online Journalism – Principles and Practices of News for the Web,
5. Holcomb Hathaway Publishers, Scottsdale, AZ.
6. Herman M. Weisman, *Basic Technical Writing,* Merrill, California, 1992
7. Writing for the Web: Crawford Kilian, Jaico, 2009

E-Resources:

1. https://www.youtube.com/watch?v=wgnUkvMRFsI
2. https://www.youtube.com/watch?v=Et-WxV1qVWc
3. https://www.youtube.com/watch?v=5zN1DTCWD-8
4. https://www.youtube.com/watch?v=SLsoAxS4VTA&list=PLpc9DYvb47BPosb awGwqGcx6qlWxIF0k6

NME04 (A) IoT for Media

Theory	60	Practical	20	Internal	20	Credits	5

Courses Objectives
1. To understand the concepts of IoT
2. To know the IoT Communication Models
3. To learn Potentials of IoT
4. To learn different Key issues in IoT
5. To understand the future and applications of IoT

Courses Outcomes
1. Student would have clarity on fundamentals of IoT
2. Student would have awareness of IoT Communication Models
3. Student would have knowledge of Potentials of IoT
4. Student would have understanding of Key issues in IoT
5. Student can visualize future of IoT

Unit 1	Understanding IoT	L	T	P
1.1	IoT and Time for Convergence (Lecture, Discussion, Practice)	1	1	1
1.2	Network connectivity (Lecture, Discussion, Practice)	1	1	1
1.3	Computer capability (Lecture, Discussion, Practice)	1	1	1
1.4	Sensors, Connectable devices Definitions (Lecture, Discussion, Practice)	1	1	1
1.5	Similar concepts Origins and Applications (Lecture, Discussion, Practice)	1	1	1

Unit 2	IoT Communication Models	L	T	P
2.1	Device-to-Device (Lecture, Discussion, Practice)	1	1	1
2.2	Device-to-Cloud (Lecture, Discussion, Practice)	1	1	1
2.3	Device-to-Gateway (Lecture, Discussion, Practice)	1	1	1
2.4	Back-End Data-Sharing (Lecture, Discussion, Practice)	1	1	1
2.5	Request Response Model, Publish Subscribe Model, Push-Pull Model, Exclusive Pair Model (Lecture, Discussion, Practice)	1	1	1
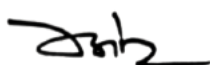
Unit 3	Potentials of IoT	L	T	P
3.1	Common interaction with the Internet (Lecture, Discussion, Practice)	1	1	1
3.2	(Passive engagement with connected objects Lecture, Discussion, Practice)	1	1	1
3.3	Active engagement with content (Lecture, Discussion, Practice)	1	1	1
3.4	IoT- Hardware (Lecture, Discussion, Practice)	1	1	1
3.5	IoT Software (Lecture, Discussion, Practice)	1	1	1

Unit 4	Key issues in IoT	L	T	P
4.1	Security (Lecture, Discussion, Practice)	1	1	1
4.2	Privacy (Lecture, Discussion, Practice)	1	1	1
4.3	Interoperability and standards (Lecture, Discussion, Practice)	1	1	1
4.4	Legal, regulatory, and rights (Lecture, Discussion, Practice)	1	1	1
4.5	Emerging economies and development (Lecture, Discussion, Practice)	1	1	1

Unit 5	Practices of IoT	L	T	P
5.1	IoT Strategic Research and Innovation Directions (Lecture, Discussion, Practice)	1	1	1
5.2	IoT Applications (Lecture, Discussion, Practice)	1	1	1
5.3	Internet of Things related Future Internet Technologies (Lecture, Discussion, Practice)	1	1	1
5.4	IoT − Media, Marketing, & Advertising (Lecture, Discussion, Practice)	1	1	1
5.5	IoT and Social Media Marketing (Lecture, Discussion, Practice)	1	1	1

Practical / Projects/Assignments:

1. Student will develop a Presentation to explain IoT with example
2. Student will discuss in groups on IoT communication Models
3. Student will create a presentation on Potentials of IoT
4. Student will create a report on Key issues, Applications and Future of IoT
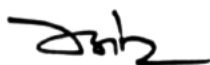5. Any other assignment given by concern faculty member

Suggested Readings:

1. Getting Started with the Internet of Things: Connecting Sensors and Microcontrollers to the Cloud (Make: Projects) [Kindle Edition] by Cuno Pfister
2. Designing the Internet of Things (Nov 2013) by Adrian McEwen & Hakim Cassimally
3. Internet of Things: A Hands-on Approach (1 Jul 2015) by Arshdeep Bahga & Vijay Madisetti
4. The Internet of Things (The MIT Press Essential Knowledge series) [Kindle Edition] by Samuel Greengard
5. Development Best Practices for the Internet of Things by Vincent Zimmer
6. Getting Started with Netduino: Open Source Electronics Projects with .NET by Chris Walker
7. Designing the Internet of Things by Adrian McEwen
8. Internet of Things with Arduino: Build Internet of Things Projects With the Arduino Platform [Kindle Edition] by Marco Schwartz
9. Internet of Things with the ESP8266: Create Exciting Internet of Things Projects Using the ESP8266 WiFi Chip by Marco Schwartz Enabling Things to Talk - Designing IoT solutions with the IoT Architectural Reference Model Editors: Alessandro Bassi, Martin Bauer, Martin Fiedler, Thorsten Kramp, Rob van Kranenburg, Sebastian Lange, Stefan Meissner (open access springer)
10. Internet of Things: Converging Technologies for Smart Environments and Integrated Ecosystems (River Publishers' Series in Information Science and Technology) (1 Jun 2013) Editors Ovidiu Vermesan & Peter Friess
11. Internet of Things: A Hands-On Approach , 2015, Arsheep Bahga and Vijay Madisetti The Internet of Things (Essential Knowledge} 2015, Samuel Greengard

E-Resources:

1. Communication Models in IoT accessed at http://www.ijste.org/articles/IJSTEV3I11049.pdf
2. Communication Models in IoT accessed at https://www.geeksforgeeks.org/communication-models-in-iot-internet-of-things/
3. Internet of Things accessed at https://www.tutorialspoint.com/internet_of_things/internet_of_things_tutorial.pdf
4. IoT and its applications accessed at https://mrcet.com/downloads/digital_notes/EEE/IoT%20&%20Applications%20Digital%20Notes.pdf

NME04 (B) Design and Business Management

| Theory | 80 | Practical | - | Internal | 20 | Credits | 5 |

Course Objectives
1. Understand the Business related works and knowledge to execute them
2. Understand the Market and Consumer Behaviour
3. Understand the Organization and its structure and the way of functioning
4. Understand the Managerial works and administrative jobs
5. Understand Design and Project Planning

Course Outcomes
1. Student will be able to identify and build the team relevant to work/projects
2. Student will have the ability to plan a project, draft estimations
3. Student will be able to correlate Consumer demand and Market situations
4. Student will be able to address Conflicts management
5. Student will know to handle public relations

Unit 1	Introduction to Marketing	L	T	P
1.1	Market and Characteristics of a Market (Lecture, Discussion)	2	1	-
1.2	Elements of a Market, Factors Affecting a Market (Lecture, Discussion)	2	1	-
1.3	Marketing- Traditional marketing v/s Online marketing (Lecture, Discussion)	2	1	-
1.4	Components of Online Marketing (Lecture, Discussion)	2	1	-
1.5	Content Marketing, Goals of Content Marketing (Lecture, Discussion)	2	1	-

Unit 2	Consumer Behavior	L	T	P
2.1	Consumer Behavior- Consumerism, Features of Consumerism, Social and Ethical Perspective of Consumer behavior (Lecture, Discussion)	2	1	-
2.2	Dimensions of Consumer Behavior (Lecture, Discussion)	2	1	-
2.3	Demand Analysis- Demand Curve, Determinants of Demand	2	1	-

	(Lecture, Discussion)			
2.4	Demand Function (Lecture, Discussion)	2	1	-
2.5	Marketing Concepts- Production Concept, Product Concept, Selling Concept (Lecture, Discussion)	2	1	-

Unit 3	Organizational Behavior	L	T	P
3.1	Organizational Behavior – Determinants (Lecture, Discussion)	2	1	-
3.2	Nature of People, Nature of Organization (Lecture, Discussion)	2	1	-
3.3	Models, Team (Lecture, Discussion)	2	1	-
3.4	Learning, Personality (Lecture, Discussion)	2	1	-
3.5	Organizational Behavior – Leadership, Theories of Leadership (Lecture, Discussion)	2	1	-

Unit 4	Conflict Management	L	T	P
4.1	Conflict Management- Classification of Conflict (Lecture, Discussion)	2	1	-
4.2	Skills Required for Conflict Resolution (Lecture, Discussion)	2	1	-
4.3	Steps in Conflict Management (Lecture, Discussion)	2	1	-
4.4	Aggravate Conflicts (Lecture, Discussion)	2	1	-
4.5	Different Methods of Handling Conflicts (Lecture, Discussion)	2	1	-

Unit 5	Design & Project Planning	L	T	P
5.1	Interactive role of Design including administration. Design documentation and management of processes such as ISO 9000,ISO 14000, Quality Function Deployment etc (Lecture, Discussion)	2	1	-
5.2	Creativity, innovation and its management in a team work (Lecture, Discussion)	2	1	-
5.3	Team building, interpersonal relationship and conflict resolution (Lecture, Discussion)	2	1	-
5.4	Professional practice, contracts, fees, negotiations, ethics and public relations (Lecture, Discussion)	2	1	-
5.5	Project planning - Design as a strategic tool in the corporate sector (Lecture, Discussion)	2	1	-

Practical/Projects/Assignments:
1. Study Impact of Social Media on Consumer Behaviour
2. Study Emerging Role of Teams in Multicultural Organizations
3. Study Effect of Social Media Sites in Consumer Behaviour Marketing.
4. Study Customer Preferences on Coupon Code Based Promotional Activities.
5. Case studies in event, brand, and advertisement management. Discuss Product management

Suggested Readings:

1. Design Management – A handbook of Issues and Methods, M. Okley (ed.), Blackwell Pbl. 1990

2. Project Management,S.A Chunawalla, Himalaya Pbl. House, Mumbai

E-Resource:
1. https://www.iedunote.com/organizational-behavior
2. https://blog.capterra.com/what-is-organizational-behavior/

3. https://pressbooks.bccampus.ca/obcourseweir/chapter/1-1-understanding-organizational-behavior/

4. 4.https://www.tutorialspoint.com/organizational_behavior/organizational_behavior_tutorial.pdf

5. https://www.consumerpsychologist.com/cb_Introduction.html

6. https://study.com/academy/lesson/what-is-consumer-behavior-in-marketing-factors-model-definition.html

(NMG06) Mobile Journalism

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives
1. Understand the basics of mobile journalism
2. To learn various equipments used in mobile journalism
3. To develop the concept of digital content making
4. To learn the technique of MOJO Reporting and visual storytelling through Mobile
5. To understand future of mobile journalism and analyze the future technology used for mobile journalism

Course Outcomes
1. Develop an understanding of MOJO
2. Identify MOJO equipments
3. Identify the various aspects of Shooting technique for mobile journalism
4. Apply technical skills for MOJO production
5. Able to create a wide range of multimedia content and to organize workflows

Unit 1	Mobile Journalism	L	T	P
1.1	Mobile journalism Vs Traditional journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.2	Introduction of mobile journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.3	Advantage of mobile journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.4	Require skills for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.5	Managing Smartphone limitation for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 2	Basic Equipments for Mobile Journalism	L	T	P
2.1	Basic requirement, power backup and protection of equipment (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.2	Stability equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.3	Grips and Gimbal (Lecture, Discussion, Practice, Demonstration, Assignment,	1	1	1

	Presentation, Practical)			
2.4	Audio- video Equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.5	Lens Accessories and Lighting equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 3	Shooting Technique for Mobile Journalism	L	T	P
3.1	Visual grammar: Image size ,Frame , Shot, Scene, Sequence (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.2	Vantage point, Camera Angle (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.3	Mobile Camera movement (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.4	Continuity, eye line, crossing the line, point of view (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.5	Audio recording and editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 4	Mobile Journalism Workflow / Production	L	T	P
4.1	Selection of story for mojo, planning-story angle, Potential Sources, interview planning, Potential shots and script Idea. (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.2	Single camera production techniques for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.3	News Gathering (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.4	Shooting script and editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.5	Outdoor/ Indoor shooting Techniques for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 5	Future of Mobile Journalism	L	T	P
5.1	Practice of modern mojo (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.2	Evolution of wearables (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.3	Latest technology use for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.4	Share, publish or Broadcast (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.5	Live streaming (Facebook, YouTube) (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Practical/Projects/Assignments:
1. News making through MOJO
2. Shot sequence practice
3. Develop the scene through mobile
4. Continuity practice
5. Plan a small Project for MOJO
6. Any Assignment given by concerned faculty

Suggested Readings:
1. Burn, I , and quinnn, s (2016). MOJO: the mobile journalism handbook: How to make   broadcast videos with an iPhone or iPad. New York: Focal press, Taylor and Francis group
2. Mobile-First Journalism: Producing News for Social and Interactive Media
Steve Hill Paul Bradshaw, Publisher: Routledge, Published on Oct 10, 2018 ISBN9781351972383
3. Mobile and Social Media Journalism: A Practical Guide for Multimedia Journalism, Edition 2
Publisher: Routledge, Published on Jul 29, 2021, ISBN: 9781000408539
4. McNae's Essential Law for Journalists: Edition 25,Mark Hanna Mike Dodd, Publisher:
Oxford University Press, Published on: Jun 26, 2020, ISBN: 9780192576200
5. MOBILE PATRAKARITA: AVDHARANA, SAMBHAVNAYEN EVM TAKNIK (MOBILE JOURNALISM) Paperback – 1 January 2021
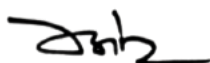Hindi Edition by PRABHU JHINGARAN (Author)

E- Resource:

1. https://www.mojo-manual.org/understanding-mobile-journalism/
2. https://www.mojo-manual.org/
3. https://revista.profesionaldelainformacion.com/index.php/EPI/article/download/863 37/62900/

(NMC18) Dissertation/ Project

Theory	-	Practical	80	Internal	20	Credits	05

* Guidelines for Project/ Internship/ Dissertation/ Thesis will be communicated separately.

Completion of Fourth Year: Option II - Bachelor of Science: Multimedia (Research) (4 Years) (160 Credits)

Semester VII

(NMC19) Research Methodology

Theory	80	Practical	-	Internal	20	Credits	5

Course Objectives

1. To learn Research, Research Process and Research Ethics
2. To study Integrity and Critical appraisal with respect to Research
3. To learn basic statistics for research
4. To develop research aptitude and analytical approach
5. To learn about the Interpretation and Report Writing

Course Outcomes

1. Student will be able to understand research terminology
2. Student will be able to aware of the ethical principles of research, ethical challenges and approval processes
3. Student will be able to describe approaches to perceive research
4. Student will be able to identify the components of a literature review process
5. Student will be able to critically analyze published research papers

Unit 1	Introduction to Research	L	T	P
1.1	Meaning of Research, Basic Philosophy of Research, Definitions of Research, General characteristics of Research, Functions of Research	2	1	-
1.2	Specific characteristics of Research, Objectives of Research: Theoretical, Factual and Application objectives	2	1	-
1.3	Classification of Research: Basic and Applied	2	1	-
1.4	Kinds of Research: On basis of Objectives of Research, On basis of Approach to Research, On basis of precision in Research findings, On basis of nature of Research findings, On basis of National Science Foundation	2	1	-
1.5	Fundamental and Basic research; Action and Applied	2	1	-

Unit 2	Basic Terminology of Research	L	T	P
2.1	Certificate and Declaration; Acknowledgement, Preface, Pilot study, Content table, Index, Citation, Footnotes, Ibid, References and Bibliography, Appendices	2	1	-
2.2	Variables: Meaning, Definition, Characteristics and uses; Types of Variables: Continuous and Discrete, Independent and Dependent; Criterion and Predictor; Extraneous variable; Intervening variable; Confounding variable	2	1	-

2.3	Normal Probability Curve: Concept, Characteristics and Uses, Levels of Measurement: Nominal, Ordinal, Interval and Ratio (NOIR) and applications in statistical testing	2	1	-
2.4	Hypothesis: Meaning, Definition, Characteristics and Uses; Types of Hypotheses: Null and Alternate; Acceptance and rejection of hypothesis, Type-I and Type-II errors, Alpha and Beta errors, Critical ratio, Confidence interval, Levels of Significance, Percentile ratio	2	1	-
2.5	Reliability and Validity in Research: Concept and Uses; Types of Reliability and Validity	2	1	-

Unit 3	**Research Methodology**	L	T	P
3.1	Research Methodology: Meaning, Definition and Characteristics	2	1	-
3.2	Methodological Approach: Explanation of Research problem and Research question	2	1	-
3.3	Clarification of Methods of Data Collection: Quantitative and Qualitative: Application, Advantages and Limitations of Quantitative and Qualitative Research Methods	2	1	-
3.4	Overview of Research Problem and Objective, Deduction and Induction in Research, Experimentation and Generalization	2	1	-
3.5	Steps in Research Process; Characteristics and Requirements, Operational Steps for Carrying out Research	2	1	-

Unit 4	Quantitative Research Methods	L	T	P
4.1	Based on Techniques and *types of studies:* Survey Method-*Basic Survey Research*, Cross-sectional survey, Longitudinal survey Survey Distribution and Survey Data Collection: Email, Embed survey on a website, Social distribution, QR code, SMS survey, QuestionPro app	2	1	-
4.2	Correlational research, Causal-comparative research, Experimental research	2	1	-
4.3	Data analysis techniques of Quantitative Research Methods: SWOT Analysis, Conjoint Analysis, Cross-tabulation, TURF Analysis	2	1	-
4.4	Secondary Quantitative Research Methods: Internet data, Government and Non-government sources, Public libraries, Educational institutions, Commercial information sources	2	1	-
4.5	Characteristics of Quantitative Research Methods: Structured tools, Sample size, Close-ended questions, Prior studies, Quantitative data, Generalization of results New tools of Quantitative Research: Customer Satisfaction Survey (CSAT), Net Promoter Score Question (NPS), Event Survey Template (EST) Advantages of quantitative research: Collection of reliable and accurate data, Quick data collection, Wider scope of data analysis, Eliminate bias	2	1	-

Unit 5	Qualitative Research Methods	L	T	P
5.1	Nature and Assumptions of Qualitative Research, Nature of Reality and Role of Researcher in Qualitative Research	2	1	-
5.2	Nature of Reality and Role of Researcher in Qualitative Research	2	1	-
5.3	Focus Group Discussions and Ethnographic Research	2	1	-
5.4	Dialogue Analysis, Conversation Analysis, Narrative Analysis, Document Analysis	2	1	-
5.5	Issues in Qualitative Research: Subjectivity, Reflexivity, Power, Validity and Triangulation	2	1	-

Practical/Projects/Assignments:

1. Develop a Research Paper
2. Preparation of a research tool
3. Application of statistical tests
4. Prepare research report
5. Handle the Supporting research software

Suggested Readings:

1. A.K. Singh (2012). Tests Measurements and Research Methods in Behavioural Sciences. Bharti Bhavan Publications.
2. C.R. Kothari. Research Methodology.
3. J.W. Creswell (2018). Research design: Qualitative, Quantitative and Mixed Methods Approaches. SAGE Publications.
4. Fred N. Kerlinger (2012). Foundations of Behavioural Research. Surjeet Publications
5. Gerard Guthrie (2015). Basic Research Methods: An Entry to Social Science Research. SAGE Publications.
6. Roger D. Wimmer and Joseph R. Dominick (2016). Mass Media Research: An Introduction. Cengage Publications.

E-Resources:

1. https://www.researchgate.net/publication/333015026_Chapter_3_-_Research_Methodology_and_Research_Method
2. http://imsaif.yolasite.com/resources/Basic%20Research%20Paper%20Writing.pdf
3. https://www.slideshare.net/AzamShams/basics-of-49818562

NME05 (A) Data Science using Python

| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objective
1. To understand the basics of Data Science
2. To know Data Collection & Processing Strategies
3. To learn Python Concepts
4. To learn Combining, Merging and Group Operations of Data
5. To learn visualization methods in Python

Course Outcomes
1. Understanding Data Science and its relevance
2. Student will have Knowledge of Data Processing
3. Student will have Clarity about Python Concepts
4. Student will be Able to handle data an its operations
5. Student will have Good knowledge of Visualization

Unit 1	Introduction	L	P	T
1.1	Introduction to Data Science	1	1	1
1.2	Evolution of Data Science	1	1	1
1.3	Data Science Roles, Stages in a Data Science Project	1	1	1
1.4	Applications of Data Science in various fields	1	1	1
1.5	Data Security Issues	1	1	1

Unit 2	Data Collection and Data Pre-Processing	L	P	T
2.1	Data Collection Strategies	1	1	1
2.2	Overview of Data Pre-Processing	1	1	1
2.3	Process of Data Cleaning	1	1	1
2.4	Data Integration and Transformation	1	1	1
2.5	Data Reduction, Data Discretization	1	1	1

Unit 3	Python Concepts, Data Structures, OOP in Python	L	P	T
3.1	Interpreter, Program Execution, Statements, Expressions, Flow Controls, Functions	1	1	1
3.2	Numeric Data Types – Sequences, Strings, Tuples, Lists, Dictionaries	1	1	1

3.3	Class Definition, Constructors, Object Creation	1	1	1
3.4	Inheritance, Overloading	1	1	1
3.5	Text Files and Binary Files, Reading and Writing	1	1	1
Unit 4	**Data Wrangling, Data Aggregation and Group Operations**	**L**	**P**	**T**
4.1	Combining and Merging Data Sets	1	1	1
4.2	Reshaping and Pivoting, Data Transformation	1	1	1
4.3	String manipulations, Regular Expressions	1	1	1
4.4	Group By Mechanics, Data Aggregation, GroupWise Operations	1	1	1
4.5	Transformations, Pivot Tables, Cross Tabulations, Date and Time data types	1	1	1

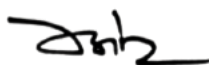| **Unit 5**	**Visualization in Python**	**L**	**P**	**T**
5.1	Introduction to Visualization	1	1	1
5.2	Introduction to Matplotlib Package	1	1	1
5.3	Plotting Graph, Adding Text	1	1	1
5.4	More Graph Types	1	1	1
5.5	Getting and Setting Values, Patches	1	1	1

Practical / Projects/Assignments:
1. Presentation on Applications of Data Science with Example.
2. Data Cleaning and Transformation Process Presentation with Example.
3. Reading and Writing in file through Python
4. Plotting Graph using Python
5. Setting Values using Python

Suggested Readings:
1. Luca Massaron John Paul Mueller "Python for Data Science For Dummies" 2019, ISBN-10: 8126524936, ISBN-13: 978-8126524938
2. Jake VanderPlas "Python Data Science Handbook: Essential Tools for Working with Data" 2016, ISBN-10: 9352134915, ISBN-13: 978-9352134915
3. Williams Steven "Python Data Science For Beginners 2021" 2021, ISBN: 9781801324052
4. Thompson Erick "Python for Data Science" 2021, ISBN: 9781801131872
5. Bharti Motwani "Data Analytics using Python" 2020, ISBN-10: 8126502959, ISBN-13: 978-8126502950
6. Soranson Oliver "Python Data Science" 2020, ISBN: 9781801130165

E-Resources:

1. https://www.tutorialspoint.com/python_data_science/index.htm
2. https://www.analyticsvidhya.com/blog/2016/01/complete-tutorial-learn-data-science-python-scratch-2/
3. https://realpython.com/tutorials/data-science/
4. https://www.dataquest.io/python-tutorials-for-data-science/

NME05 (B) Online Research Methods

| Theory | 80 | Practical | - | Internal | 20 | Credits | 5 |

Course Objectives

1. Deeper understanding of the online research
2. Understand quantitative and qualitative tools for studying the internet
3. Learn ethics of online research
4. Learn about online survey
5. Data collection ability for online resources

Course Outcomes

1. Perform a basic ethics assessment of online research
2. Understand online survey methods and techniques
3. Understand advanced online tools for analysis
4. Methodically collect and archive different kinds of Internet Data
5. Identify key quality criteria of online research

Unit 1	Fundamentals of Online Research	L	T	P
1.1	What is online research? (Lecture, Discussion)	2	1	-
1.2	Objectives of Research, Research Approaches, Significance of Research (Lecture, Discussion, Practice)	2	1	-
1.3	Online Research Opportunities (Lecture, Discussion, Practice)	2	1	-
1.4	Quantitative Data Types (Lecture, Discussion)	2	1	-
1.5	Qualitative Data Types (Lecture)	2	1	-

Unit 2	Online Research Methods and Techniques	L	T	P
2.1	Online focus group (Lecture, Discussion)	2	1	-
2.2	Online interview (Lecture, Discussion, Practice)	2	1	-
2.3	Online qualitative research (Lecture, Discussion, Practice, Assignment)	2	1	-
2.4	Social network analysis (Lecture, Discussion, Practice)	2	1	-

2.5	Future of Online Social Research (Lecture, Practice)	2	1	-

Unit 3	**Designing Online Research**	**L**	**T**	**P**
3.1	Online Research Ethics (Lecture, Discussion)	2	1	-
3.2	Online Environments (Lecture, Discussion, Practice)	2	1	-
3.3	Online Data Collection (Lecture, Practice)	2	1	-
3.4	Data Quality (Lecture, Discussion, Practice)	2	1	-
3.5	Online Research Advantages (Lecture, Discussion, Practice)	2	1	-

Unit 4	**Online Survey Methods**	**L**	**T**	**P**
4.1	Overview of online Survey (Lecture, Discussion)	2	1	-
4.2	Advantages of Online Survey (Lecture, Discussion, Practice)	2	1	-
4.3	Type of Survey (Lecture, Discussion, Practice)	2	1	-
4.4	Sampling Methods for Online Surveys (Lecture, Practice, Assignment)	2	1	-
4.5	Survey Tools (Lecture, Assignment)	2	1	-

Unit 5	**Digital Text Analysis**	**L**	**T**	**P**
5.1	Quantitative Data Resources (Lecture, Practice, Assignment)	2	1	-
5.2	Sentiment Analysis (Lecture, Practice, Assignment)	2	1	-
5.3	Artificial Intelligence and Online Research (Lecture, Discussion, Practice)	2	1	-
5.4	Content Analysis Tools (Lecture, Discussion, Practice)	2	1	-

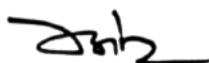| 5.5	Data visualisation as an emerging tool for online research (Lecture, Discussion, Practice)	2	1	-

Practical/Projects/Assignments:
1. Gather student's information using online form.
2. Prepare Social Media Questionnaires.
3. Review the literature of various online research methods.
4. Perform Survey on New Media uses.
5. Take appropriate data and draw Bar chart, line chart, scatter chart and pie chart.

Suggested Readings:
1. The SAGE Handbook of Online Research Methods by Nigel G Fielding, Raymond M Lee, Grant Blank SAGE,2016
2. "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" by John W. Creswell and J. David Creswell, ISBN-13: 978-1506386706
3. "Qualitative Research: A Guide to Design and Implementation 4th Edition" by Sharan B. Merriam, Elizabeth J. Tisdell. ISBN-13: 978-1119003618
4. HANDBOOK OF RESEARCH METHODOLOGY by Mishra, Dr. Shanti Bhushan & Alok, Dr. Shashi. 2017.
5. "Media and Communication Research Methods- An Introduction to Qualitative and Quantitative Approaches" by Arthur Asa Berger, San Francisco State University, USA

E-Resources:
1. https://www.questionpro.com/blog/execute-online-research/
2. https://en.wikipedia.org/wiki/Online_research_methods
3. https://www.delegated.com/resources/online-research-process-types-tools-tips
4. https://www.skillmaker.edu.au/online-research-methods/

(NMG05) Social Media Data Analytics

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives

1. Learn the basics of Data Analytics
2. To understand the different ways of collecting and extracting Social Media Data
3. Analyzing the extracted data using Statistical functions
4. Applying Sentiment analysis on the extracted data using R and Python
5. Visualizing the Data to Explore new trends, patterns and correlations

Course Outcomes

1. Student can collect data from different social media sources such as YouTube, Twitter/Facebook
2. Student can Utilize various Application Programming Interface (API) services to collect data from different social media sources
3. Student can Process the collected data - primarily structured - using methods involving correlation, regression, and classification to derive insights about the sources and people who generated that data
4. Student can analyze the unstructured data - primarily textual comments
5. Student can Use different tools for collecting, analyzing, and exploring social media data for research and development purposes

Unit 1	Introduction to Data Analytics	L	T	P
1.1	Concepts of Social Media Data (Discussion, Assignment)	1	1	1
1.2	Concepts of Social Media Data Analytics (Discussion, Participation)	1	1	1
1.3	Kinds of Data - Structured and Unstructured (Discussion, Practice)	1	1	1
1.4	Analysis of Structured data and its benefits (Discussion, Practice, Assignment)	1	1	1
1.5	Visualizations for exploring and presenting data (Discussion, Quiz)	1	1	1

Unit 2	Collecting and Extracting Social Media Data	L	T	P
2.1	Collecting data from Twitter and YouTube, Facebook (Discussion, Practice, Assignment)	1	1	1
2.2	Introduction to Python programming (Discussion, Practice, Assignment)	1	1	1
2.3	Use of Python script (Discussion, Practice)	1	1	1
2.4	Use of Python script editing, to extract data from Twitter (Discussion, Practice)	1	1	1

2.5	Use of Python script editing, to extract data from YouTube (Discussion, Group activity)	1	1	1

Unit 3	Data Analysis, Visualization, And Exploration-I	L	T	P
3.1	Analyzing the data from various social media services (Discussion, Practice)	1	1	1
3.2	Basics of Data Analysis (Discussion, Practice, Assignment)	1	1	1
3.3	Statistical Analysis – correlation, regression and classification (Discussion, Practice, Quiz)	1	1	1
3.4	Analysis of Structured data (Discussion, Assignment)	1	1	1
3.5	Using the data collected from YouTube for Statistics Analysis (Discussion, Practice)	1	1	1

Unit 4	Data Analysis, Visualization, and Exploration-II	L	T	P
4.1	Statistical Analysis Using R (Discussion)	1	1	1
4.2	Analysis of Unstructured data (Practice)	1	1	1
4.3	Sentiment Analysis (Practice)	1	1	1
4.4	Basics of Data Visualization (Discussion, Practice)	1	1	1
4.5	Visualizing the data from various social media services (Discussion, Practice)	1	1	1

Unit 5	Case Studies	L	T	P
5.1	Case Study 1: Using Twitter, focus on unstructured data (in this case, text) (Discussion, Practice)	1	1	1
5.2	Case Study 1: Using Twitter, Sentiment Analysis with Python (Discussion, Practice)	1	1	1
5.3	Case Study 2: Basic text mining application using R (Discussion, Practice)	1	1	1
5.4	Case Study 2: Basic text mining application using R (Discussion, Practice)	1	1	1
5.5	Comparative study of tools used for Data Analysis, Visualization, and Exploration (Practice)	1	1	1

Practical/Projects/Assignments:
1. Installation and Configuration of Python and R
2. How to install new packages/libraries for Python and R
3. How to create developer accounts
4. What information to obtain to use the data collection APIs
5. Collecting data from Twitter and YouTube
6. Use of Python script editing, to extract data from Twitter and YouTube
7. Analyze the extracted Structured data
8. Analyze the extracted Unstructured data
9. Explore the different Data Visualization Patterns

Suggested Readings:
1. Social Media Analytics: Techniques and Insights for Extracting Business Value Out of Social Media by Matthew Ganis, AvinashKohirkar, 2016, Pearson Publishers, ISBN : 9789332578463
2. Learning Social Media Analytics with R by Raghav Bali, Dipanjan Sarkar, Tushar Sharma, May 2017, Packt Publishing, ISBN: 9781787127524
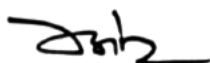
E-Resources:
1. Social Media Data Analytics accessed at https://www.upa.it/static/upload/the/the-fundamentals-of-social-media-analytics.pdf
2. Social Media Data Analytics accessed at https://ptgmedia.pearsoncmg.com/images/9780133892567/samplepages/9780133892567.pdf

(NMC20) Project

| Theory | - | Practical | 80 | Internal | 20 | Credits | 05 |

* Guidelines for Project/ Internship/ Dissertation/ Thesis will be communicated separately.

Semester VIII

NME06 (A) Data Analytics and Visualization

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. To learn visualizing data
2. To provide strong foundation for data analytics
3. To provide strong foundation application area related to Data Analytics
4. Understand the underlying core concepts in data analytics
5. Understand the emerging technologies in data analytics

Course Outcomes
1. Explore the fundamental concepts of data analytics
2. Understand data analysis techniques for applications handling large data
3. Understand various machine learning algorithms used in data analytics process
4. Visualize and present the inference using various tools
5. Learn to think through the ethics surrounding privacy, data sharing and algorithmic decision-making

Unit 1	Introduction	L	T	P
1.1	Data Analytics - Types – Phases (Lecture, Discussion, Practice)	1	1	1
1.2	Quality and Quantity of data (Lecture, Discussion, Practice)	1	1	1
1.3	Measurement - Exploratory data analysis (Lecture, Discussion, Practice)	1	1	1
1.4	Business Intelligence (Lecture, Discussion, Practice)	1	1	1
1.5	Analyze Website visitor data example (Lecture, Discussion, Practice)	1	1	1

Unit 2	Big Data	L	T	P
2.1	Big Data and Cloud technologies (Lecture, Discussion, Practice)	1	1	1
2.2	Introduction to HADOOP (Lecture, Discussion, Practice)	1	1	1
2.3	Big Data, Apache Hadoop (Lecture, Discussion, Practice)	1	1	1
2.4	MapReduce - Data Serialization (Lecture, Discussion, Practice)	1	1	1
2.5	Data Extraction - Stacking Data - Dealing with data (Lecture, Discussion, Practice)	1	1	1

Unit 3	Data Visualization	L	T	P
3.1	Introduction to data visualization (Lecture, Discussion, Practice)	1	1	1
3.2	Data visualization options – Filters (Lecture, Discussion, Practice)	1	1	1
3.3	Dashboard development tools (Lecture, Discussion, Practice)	1	1	1
3.4	Creating an interactive dashboard with dc.js (Lecture, Discussion, Practice)	1	1	1
3.5	Open Source tools for Data Visualization (Lecture, Discussion, Practice)	1	1	1

Unit 4	Analytics and Machine Learning	L	T	P
4.1	Machine learning – Modeling Process (Lecture, Discussion, Practice)	1	1	1
4.2	Training model – Validating model (Lecture, Discussion, Practice)	1	1	1
4.3	Predicting new observations (Lecture, Discussion, Practice)	1	1	1
4.4	Supervised learning algorithms (Lecture, Discussion, Practice)	1	1	1
4.5	Unsupervised learning algorithms (Lecture, Discussion, Practice)	1	1	1

Unit 5	Ethics and Recent Trends	L	T	P
5.1	Data Science Ethics (Lecture, Discussion, Practice)	1	1	1
5.2	Doing good data science – Owners of the data (Lecture, Discussion, Practice)	1	1	1
5.3	Valuing different aspects of privacy - Getting informed consent (Lecture, Discussion, Practice)	1	1	1
5.4	The Five Cs – Diversity – Inclusion (Lecture, Discussion, Practice)	1	1	1
5.5	Future Trends (Lecture, Discussion, Practice)	1	1	1

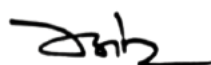**Practical/Projects/Assignments:**
1. Analyze website visitor data for E--commerce site(Amazon, Flipkart)
2. Use different types of charts and graphs to represent weather forecast and Use Google map to represent your institution.
3. Analyze "The daily routines of famous creative peoples" for interactiveness, color Usage and global sense of data.
4. Examine a Case Study for Supervised Learning Algorithms
5. Examine a Case Study for Unsupervised Learning Algorithms
6. Identify violation of Data Science ethics and list out the ways to handle it.

Suggested Readings:
1. Davy Cielen, Arno D. B. Meysman, Mohamed Ali, Introducing Data Science, Manning Publications Co., 1st edition, 2016.
2. Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani, An Introduction to Statistical Learning: with Applications in R, Springer, 1st edition, 2013.
3. Bart Baesens, Analytics in a Big Data World: The Essential Guide to Data Science and its Applications, Wiley.
4. D J Patil, Hilary Mason, Mike Loukides, Ethics and Data Science, O' Reilly, 1st edition, 2018.
5. Visualizing Data - Exploring and Explaining Data with the Processing Environment, Ben Fry, O'Reilly Media, 2007
6. Designing Data Visualizations - Intentional Communication from Data to Display, Noah Minsky, Julie Steele O'Reilly Media, 2011
7. Visualization Analysis and Design, Tamara Munzner. A K Peters Visualization Series, CRC Press, 2014.

E-Resources:
1. https://www.geeksforgeeks.org/difference-between-data-visualization-and-data analytics/
2. https://www.fingent.com/blog/data-visualization-vs-data-analytics-whats-difference/
3. https://www.tableau.com/learn/articles/data-visualization

NME06 (B) Big Data and Social Media

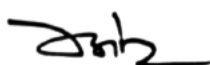| Theory | 60 | Practical | 20 | Internal | 20 | Credits | 5 |

Course Objectives
1. To learn fundamentals of Big data
2. To learn Big Data Technology Landscape
3. To understand the fundamentals Hadoop
4. To understand Big Data and Social Media
5. To develop student's critical appreciation of the nature, role and dynamics of big data and social media

Course Outcomes

1. Student would be able to understand the essential principles of Big Data
2. Student would be able to recognize types and process of Big Data Technology Landscape
3. Student would be able to identify technical aspects of Hadoop
4. Student would be able gain Knowledge and understanding of the available big data and social media
5. Student would have ability to assess information and data in terms of quality and reliability issues field

Unit 1	Introduction to Big Data	L	T	P
1.1	Characteristics of Data (Lecture, Discussion, Presentation)	1	1	1
1.2	Evolution of Big Data (Lecture, Discussion, Presentation)	1	1	1
1.3	Big Data and its importance (Lecture, Discussion, Presentation)	1	1	1
1.4	Challenges with Big Data (Lecture, Discussion, Presentation)	1	1	1
1.5	Traditional Business Intelligence (BI) versus Big Data (Lecture, Discussion, Presentation)	1	1	1

Unit 2	Big Data	L	T	P
2.1	Distributed File System (Lecture, Discussion, Presentation)	1	1	1
2.2	Four V's of Big Data (Lecture, Discussion, Presentation)	1	1	1
2.3	Drivers for Big Data (Lecture, Discussion, Presentation)	1	1	1
2.4	Big Data Applications (Lecture, Discussion, Presentation)	1	1	1

2.5	Traditional Business Intelligence (BI) versus Big Data (Lecture, Discussion, Presentation)			

Unit 3	**Big Data Analytics**	L	T	P
3.1	Big Data Analytics (Lecture, Discussion, Presentation)	1	1	1
3.2	Classification of Analytics (Lecture, Discussion, Presentation)	1	1	1
3.2	Importance and Top Challenges Facing Big Data (Lecture, Discussion, Presentation)	1	1	1
3.3	Introduction to NoSQL (Not Only SQL) and where is it used (Lecture, Discussion, Presentation)	1	1	1
3.4	Types of NoSQL Databases, Advantages of NoSQL (Lecture, Discussion, Presentation)	1	1	1

Unit 4	**Big Data and Social Media - 1**	L	T	P
4.1	The role, nature, and importance of big data in Multimedia Communication (Lecture, Discussion, Presentation)	1	1	1
4.2	The role, nature, and importance of social media in Multimedia Communication (Lecture, Discussion, Presentation)	1	1	1
4.3	Big data and business intelligence for marketing purposes (Lecture, Discussion, Presentation)	1	1	1
4.4	Social media and Multimedia Communication (Lecture, Discussion, Presentation)	1	1	1
4.5	Trends in Social media and Multimedia Communication (Lecture, Discussion, Presentation)	1	1	1

Unit 5	**Big Data and Social Media - 2**	L	T	P
5.1	Essentials to data-backed insights and analytics-driven decisions (Lecture, Discussion, Presentation)	1	1	1
5.2	Ethical issues around big data (Lecture, Discussion, Presentation)	1	1	1
5.3	Ethical issues around social media (Lecture, Discussion, Presentation)	1	1	1
5.4	Data Privacy issues in Social Media and Big Data (Lecture, Discussion, Presentation)	1	1	1
5.5	Emerging technologies in Multimedia Communication (virtual	1	1	1

reality artificial intelligence, etc)			
(Lecture, Discussion, Presentation)			

Practical/Projects/Assignments:
1. Student will develop a Presentation to explain Big Data with example
2. Student will discuss in groups on Big Data Analytics
3. Student will create a presentation on Big Data and Social Media
4. Student will create a report on Big Data and Social Media
5. Any other assignment given by concern faculty member

Suggested Readings:
1. Seema Acharya, Subhashini Chellappan "Big Data and Analytics" 2019, ISBN: 9788126579518
2. Judith S. Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman "Big Data For Dummies" 2013, ISBN:9781118644171, 1118644174
3. James Warren and Nathan Marz "Big Data: Principles and Best Practices of Scalable Realtime ..." 2015, ISBN: 1617290343, 9781617290343
4. Jennifer Erwitt and Rick Smolan "The Human Face of Big Data" 2012, ISBN: 1454908270, 9781454908272
5. Bernard Marr "Big Data: Using SMART Big Data, Analytics and Metrics To Make Better Decisions and Improve Performance" 2015, ISBN: 1118965833, 9781118965832
6. Jacqueline Burgess "Big Data - Unabridged Guide" 2012, ISBN: 1486198708, 9781486198702

E-Resources:
1. https://www.tutorialspoint.com/big_data_tutorials.htm
2. https://www.guru99.com/bigdata-tutorials.html
3. https://www.javatpoint.com/what-is-big-data
4. https://www.edureka.co/blog/big-data-tutorial

(NMG06) Mobile Journalism

Theory	60	Practical	20	Internal	20	Credits	5

Course Objectives
1. Understand the basics of mobile journalism
2. To learn various equipments used in mobile journalism
3. To develop the concept of digital content making
4. To learn the technique of MOJO Reporting and visual storytelling through Mobile
5. To understand future of mobile journalism and analyze the future technology used for mobile journalism

Course Outcomes
1. Develop an understanding of MOJO
2. Identify MOJO equipments
3. Identify the various aspects of Shooting technique for mobile journalism
4. Apply technical skills for MOJO production
5. Able to create a wide range of multimedia content and to organize workflows

Unit 1	Mobile Journalism	L	T	P
1.1	Mobile journalism Vs Traditional journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.2	Introduction of mobile journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.3	Advantage of mobile journalism (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.4	Require skills for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1
1.5	Managing Smartphone limitation for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	1	1

Unit 2	Basic Equipments for Mobile Journalism	L	T	P
2.1	Basic requirement, power backup and protection of equipment (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.2	Stability equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.3	Grips and Gimbal (Lecture, Discussion, Practice, Demonstration, Assignment,	1	1	1

	Presentation, Practical)			
2.4	Audio- video Equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
2.5	Lens Accessories and Lighting equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 3	Shooting Technique for Mobile Journalism	L	T	P
3.1	Visual grammar: Image size ,Frame , Shot, Scene, Sequence (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.2	Vantage point, Camera Angle (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.3	Mobile Camera movement (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.4	Continuity, eye line, crossing the line, point of view (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
3.5	Audio recording and editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Unit 4	Mobile Journalism Workflow / Production	L	T	P
4.1	Selection of story for mojo, planning-story angle, Potential Sources, interview planning, Potential shots and script Idea. (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.2	Single camera production techniques for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.3	News Gathering (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.4	Shooting script and editing (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
4.5	Outdoor/ Indoor shooting Techniques for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

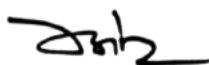| Unit 5	Future of Mobile Journalism	L	T	P
5.1	Practice of modern mojo (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.2	Evolution of wearables (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.3	Latest technology use for MOJO (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.4	Share, publish or Broadcast (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1
5.5	Live streaming (Facebook, YouTube) (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation, Practical)	1	1	1

Practical/Projects/Assignments:
1. News making through MOJO
2. Shot sequence practice
3. Develop the scene through mobile
4. Continuity practice
5. Plan a small Project for MOJO
6. Any Assignment given by concerned faculty

Suggested Readings:
1. Burn, I , and quinnn, s (2016). MOJO: the mobile journalism handbook: How to make   broadcast videos with an iPhone or iPad. New York: Focal press, Taylor and Francis group
2. Mobile-First Journalism: Producing News for Social and Interactive Media
Steve Hill Paul Bradshaw, Publisher: Routledge, Published on Oct 10, 2018 ISBN9781351972383
3. Mobile and Social Media Journalism: A Practical Guide for Multimedia Journalism, Edition 2
Publisher: Routledge, Published on Jul 29, 2021, ISBN: 9781000408539
4. McNae's Essential Law for Journalists: Edition 25,Mark Hanna Mike Dodd, Publisher:
Oxford University Press, Published on: Jun 26, 2020, ISBN: 9780192576200
5. MOBILE PATRAKARITA: AVDHARANA, SAMBHAVNAYEN EVM TAKNIK (MOBILE JOURNALISM) Paperback – 1 January 2021
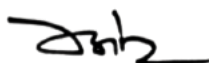Hindi Edition by PRABHU JHINGARAN (Author)

E- Resource:

1. https://www.mojo-manual.org/understanding-mobile-journalism/
2. https://www.mojo-manual.org/
3. https://revista.profesionaldelainformacion.com/index.php/EPI/article/download/863 37/62900/

(NMC21) Thesis

Theory	-	Practical	160	Internal	40	Credits	10

* Guidelines for Project/ Internship/ Dissertation/ Thesis will be communicated separately.

*** This Provisional syllabus is subject to change, as per UGC/NEP norms.