

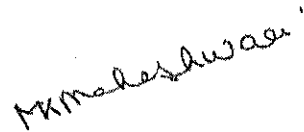
Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal
Madhya Pradesh, India.

Ph.D Entrance Examination Syllabus
2026 - 2027



Prof. Dr. P. Sasikala
Prof. (Dr.) P. Sasikala

Prof. Anubhuti Yadav (Online)
Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Communication
Makhanpuram Parisar, Opposite to
M.P. State Shooting Academy, Bisenkhedi,
Bhopal, Madhya Pradesh-462044



Prof. Dr. Manish Maheshwari



Dr. Babita Agrawal

Prof. Kanak Saxena (Online)
Prof. Anubhuti Yadav (Online)


SUBJECT : NEW MEDIA TECHNOLOGY (Ph.D ENTRANCE TEST)

PART A (50 MARKS 50 QUESTIONS)

This section will contain 50 questions with (multiple choices) to test general awareness, research aptitude, reasoning, basics of computation, logic, data interrelation, presentation, analysis synthesis etc. Five questions each carrying 1 mark are to be set from each module.


PART B (50 MARKS 50 QUESTIONS)

This section will contain 50 questions with (multiple choices) to assess the candidate's capability of explaining concepts and knowledge from the relevant discipline in which he/she seeks registration as indicated in application form. Five questions each carrying 1 mark are to be set from each module.


Prof. Dr. P. Sasikala
Prof. (Dr.) P. Sasikala

Prof. Anubhuti Yadav (Online)
Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Communication
Mekhanpuram Parisar, Opposite to
M.P. State Shooting Academy, Bisenkhedi,
Bhopal, Madhya Pradesh-462044


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**Makhanlal Chaturvedi National University of Journalism and
Communication, Bhopal**

SYLLABUS

PAPER-A

Subject: RESEARCH METHODOLOGY

Unit-I Teaching Aptitude

- Teaching: Concept, Objectives, Levels of teaching (Memory, Understanding and Reflective), Characteristics and basic requirements.
- Learner's characteristics: Characteristics of adolescent and adult learners (Academic, Social, Emotional and Cognitive), Individual differences.
- Factors affecting teaching related to: Teacher, Learner, Support material, Instructional facilities, Learning environment and Institution.
- Methods of teaching in Institutions of higher learning: Teacher centered vs. Learner centered methods; Off-line vs. On-line methods (Swayam, Swayamprabha, MOOCs etc.).
- Teaching Support System: Traditional, Modern and ICT based.
- Evaluation Systems: Elements and Types of evaluation, Evaluation in Choice Based Credit System in Higher education, Computer based testing, Innovations in evaluation systems.

Unit-II Research Aptitude

- Research: Meaning, Types, and Characteristics, Positivism and Post-positivistic approach to research.
- Methods of Research: Experimental, Descriptive, Historical, Qualitative and Quantitative methods.
- Steps of Research.
- Thesis and Article writing: Format and styles of referencing.
- Application of ICT in research.
- Research ethics.

Unit-III Comprehension

- A passage of text be given. Questions be asked from the passage to be answered.

Prof. (Dr.) P. Sasikala
Head

Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Communication
Makhanpuram Parisar, Opposite to
IP State Shooting Academy, Bhopal

Munaleswarai

Prabha

Prof. Kanak Saxena &
Prof. Anubhuti Yadav
(Online)

Unit-IV Communication

- Communication: Meaning, types and characteristics of communication.
- Effective communication: Verbal and Non-verbal, Inter-Cultural and group communications, Classroom communication.
- Barriers to effective communication.
- Mass-Media and Society.

Unit-V Mathematical Reasoning and Aptitude

- Types of reasoning.
- Number series, Letter series, Codes and Relationships.
- Mathematical Aptitude (Fraction, Time & Distance, Ratio, Proportion and Percentage, Profit and Loss, Interest and Discounting, Averages etc.).

Unit-VI Logical Reasoning

- Understanding the structure of arguments: argument forms, structure of categorical propositions, Mood and Figure, Formal and Informal fallacies, Uses of language, Connotations and denotations of terms, Classical square of opposition.
- Evaluating and distinguishing deductive and inductive reasoning.
- Analogies.
- Venn diagram: Simple and multiple use for establishing validity of arguments.
- Indian Logic: Means of knowledge.
- Pramanas: Pratyaksha (Perception), Anumana (Inference), Upamana (Comparison), Shabda (Verbal testimony), Arthapatti (Implication) and Anupalabdhi (Non-apprehension).
- Structure and kinds of Anumana (inference), Vyapti (invariable relation), Hetvabhasas (fallacies of inference).

Unit-VII Data Interpretation

- Sources, acquisition and classification of Data.
- Quantitative and Qualitative Data.
- Graphical representation (Bar-chart, Histograms, Pie-chart, Table-chart and Line-chart) and mapping of Data.
- Data Interpretation.
- Data and Governance.

Prof. (Dr.) P. Sasikani
Head

Department of New Media Technology
Mahatma Gandhi Open University
of Journalism and Communication
Makhanpuram Parisar, Opposite to
I.P. State Shooting Academy, Biserkheri

M. Maheshwari

Prabha

Prof. Kanak Saxena
Prof. Anubhuti Yadav
(Online)

Unit-VIII Information and Communication Technology (ICT)

- ICT: General abbreviations and terminology.
- Basics of Internet, Intranet, E-mail, Audio and Video-conferencing.
- Digital initiatives in higher education.
- ICT and Governance.

Unit-IX People, Development and Environment

- Development and environment: Millennium development and Sustainable development goals.
- Human and environment interaction: Anthropogenic activities and their impacts on environment.
- Environmental issues: Local, Regional and Global; Air pollution, Water pollution, Soil pollution, Noise pollution, Waste (solid, liquid, biomedical, hazardous, electronic), Climate change and its Socio-Economic and Political dimensions.
- Impacts of pollutants on human health.
- Natural and energy resources: Solar, Wind, Soil, Hydro, Geothermal, Biomass, Nuclear and Forests.
- Natural hazards and disasters: Mitigation strategies.
- Environmental Protection Act (1986), National Action Plan on Climate Change, International agreements/efforts -Montreal Protocol, Rio Summit, Convention on Biodiversity, Kyoto Protocol, Paris Agreement, International Solar Alliance.

Unit-X Higher Education System

- Institutions of higher learning and education in ancient India.
- Evolution of higher learning and research in Post Independence India.
- Oriental, Conventional and Non-conventional learning programmes in India.
- Professional, Technical and Skill Based education.
- Value education and environmental education.
- Policies, Governance, and Administration.

Prof. (Dr.) P. Sankar

Head

Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Mass Communication
Makhanspuram Parasi, Opposite to
M.P. State Shooting Academy, Bisenkhed,
Bhopal, Madhya Pradesh-462044

Rabita

Prof. Kanak Saxena

Prof. Anubhuti Yadav

3

(Online)

Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal

Part B - New Media Technology

Ph.D Syllabus with effect from 2026

Unit – 1

Introduction to New Media and Digital Communication

- Concept, Definition and Evolution of New Media, Difference between Traditional Media and New Media Ecosystems.
- Online Journalism, Multimedia Storytelling, Mobile Journalism, Data Journalism.
- Digital Convergence, Multimedia Platforms and Participatory Culture, History and Development of Digital Media Technologies.
- Social Networking Platforms, Influencer Culture, Digital Public Sphere
- Role of New Media in Society, Culture, Communication and Business, Digital Culture and Network Society.
- Emerging Trends: Metaverse, Immersive Media and AI-driven Media.

Unit – 2


Foundation of New Media Technology

- Concept and Components of Text, Image, Graphics.
- Concept and Components of Audio, Video, Animation.
- Digital Image Formats, Video Formats, Compression Techniques.
- Interactive Multimedia and Hypermedia Systems.
- Multimedia Authoring Tools and Platforms.
- Applications of Multimedia in Education, Entertainment, Journalism and Advertising.

Unit – 3

Text and Sound

- Purpose and Structure of Text, Hypertext and Hypermedia.
- Font and Typeface, Types of Fonts.
- Text Formatting, File Formats and Software.
- Types and Characteristics of Audio
- Audio File Formats
- Audio Recording Equipment, Editing Process and Editing Software

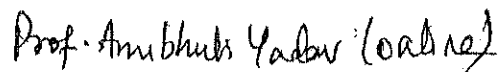

Prof. Dr. P. Sasikala


Prof. Dr. Manish Mahechwar


Dr. Babita Agrawal

Prof. Anubhuti Yadav (Online)
Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Communication
Makhanpuram Parisar, Opposite to
M.P. State Shooting Academy, Bisenkhedi,
Bhopal, Madhya Pradesh-462044

Prof. Kanak Saxena (Online)


Prof. Anubhuti Yadav (Online)

Unit – 4
Graphic Design and Visual Communication


- a. Principles of Visual Communication and Graphic Design.
- b. Elements of Design: Line, Shape, Color, Texture, Space and Typography.
- c. Layout Design, Grid Systems and Visual Hierarchy.
- d. Branding, Identity Design and Digital Publishing.
- e. Vector and Raster Graphics Technologies.
- f. Graphic Design Tools and Workflows in Digital Media Production.

Unit – 5
Motion Graphics and Digital Video Design

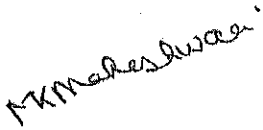
- a. Fundamentals of Motion Graphics and Visual Storytelling.
- b. Principles of Animation in Motion Graphics.
- c. Typography in Motion Design.
- d. Video Editing Techniques and Digital Compositing.
- e. Motion Design for Advertising, Social Media and Broadcast.
- f. Tools and Technologies for Motion Graphics Production.


Unit – 6
Animation and Digital Illustration

- a. Principles of Classical Animation and Frame-Based Animation, Character Design and Storyboarding
- b. Keyframing, Tweening and Animation Timing, Vector-Based Animation Techniques.
- c. Animation Pipelines and Production Workflow, Applications of 2D Animation in Film, Gaming and Educational Media.
- d. Fundamentals of 3D Graphics and Modeling, Polygon Modeling, Texturing and Shading.
- e. Lighting Techniques and Rendering Systems, Rigging and Character Animation in 3D.
- f. Simulation, Particle Systems and Visual Effects (VFX), Applications of 3D Graphics in Film, Gaming, Architecture and Virtual Reality.


Prof. Dr. P. S. Sankhala
Prof. (Dr.) P. Sankhala

Head
Department of New Media Technology
Makhanlal Chaturvedi National University
of Journalism and Communication
Makhanpuram Parisar, Opposite to
M.P. State Shooting Academy, Bisenkhedi,
Bhopal, Madhya Pradesh-462044


Prof. Dr. Manish Maheshwari


Dr. Babita Agrawal

Prof. Kanak Saxena

(Online)
Prof. Anubhuti Yadav (Online)

Unit – 7
Human Computer Interaction

- a. Concept and Principles of UI and UX Design.
- b. Human-Computer Interaction and Usability Principles.
- c. Information Architecture and Wireframing.
- d. Prototyping and Interaction Design.
- e. Responsive Design and Mobile-First Design Principles.
- f. Usability Testing, Accessibility and Design Ethics

Unit – 8
Generative AI and Creative Technologies

- a. Concept of Artificial Intelligence in Media Production.
- b. Generative AI Models for Text, Image, Audio and Video Creation.
- c. AI Tools for Design, Animation and Content Generation.
- d. Prompt Engineering and AI-Assisted Creative Workflows.
- e. Ethical Implications of AI-Generated Media.
- f. Future of AI-Driven Creativity and Digital Content Production.

Unit – 9
Interactive Media, Web Design and Digital Platforms

- a. Web Design Principles and Front-End Media Technologies.
- b. Interactive Storytelling and Immersive Experiences.
- c. Digital Publishing and Content Management Systems.
- d. Social Media Design and Digital Campaign Strategies.
- e. Mobile Applications and Cross-Platform Media Design.
- f. Virtual Reality (VR), Augmented Reality (AR) And Mixed Reality Applications.

Unit – 10
New Media Research, Ethics and Industry Practices

- a. Research Methods in Digital Media and Design Studies.
- b. Intellectual Property Rights and Copyright in Digital Media.
- c. Digital Privacy, Cyber Laws and IT Act.
- d. Ethical Issues in Digital Content Creation and AI Media, Fake News, Fact Checking, Misinformation and Disinformation.
- e. Media Entrepreneurship, Startups and Creative Industries.
- f. Future Trends in New Media Technology and Digital Innovation.

Prof. Dr. P. Sasthikala
Prof. (Dr.) P. Sankala

Prof. Dr. Manish Maheshwari

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Prof. Anubhuti Yadav (Online)
Head
Department of New Media Technology
Makhanlal Chaturvedi National University
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