

<b>SUBJECT-WISE INFORMATION ABOUT VACANCIES, TEST CENTRE AND TITLE OF PAPERS FOR M.Phil. &amp; Ph.D. Entrance Test (2015) Revised as on 18-08-2015</b>				
<i>S.N.</i>	<i>Subject</i>	<i>Program Vacancies/ seats</i>	<i>Title of papers for entrance test</i>	<i>Test Center</i>
1.	Physics	Ph.D.(09) M.Phil.(20)	1 Classical & Quantum Mechanics 2. Materials science & Solid state Physics 3. Atomic, Molecular, Laser, Plasma Physics 4. Statistical, Nuclear & Particle Physics 5 Electrodynamics, Electronics, Digital & Mathematical Physics	School of Physics
2.	Chemistry	Ph.D.(18)	1 Physical Chemistry 2. Inorganic Chemistry 3. Organic Chemistry 4. Group Theory and Spectroscopy	School of Chemical Sciences
3.	Mathematics	Ph.D.(04) M.Phil.(10)	1. Algebra. 2 .Real Analysis. 3 .Complex Analysis. 4 .Topology & Functional Analysis. 5. Linear Algebra.	School of Mathematics
4.	Statistics	Ph.D./(04) M.Phil.(20)	1.Statistical Methods 2. Probability and distribution theory 3. Statistical Inference 4. Design of Experiments 5. Operations Research	School of Statistics
5.	Life Science	Ph.D.(07) M.Phil.(15)	1.Cell Biology 2.Basic Genetics including Molecular Biology 3. Biochemistry 4. Animal & Plant Physiology 5. Basic Microbiology	School of life Sciences
6.	Economics	Ph.D.(40) M.Phil.(20)	1. Microeconomics 2.Macro economics 3.International Economics 4.Statistics 5.Indian Economic policy	School of Economics

7.	Zoology	Ph.D.(17)	1. Taxonomy , Evolution , Biodiversity , Wild – life Conservation 2. Anatomy and Physiology of Vertebrates , Endocrinology 3. Cell Biology , Genetics , Ecotoxicology 4. Animal Behavior , Neurophysiology 5. Limnology , Aquaculture , Ichthyology	School of Biotechnology
8.	Botany	Ph.D.(03)	1. Biology & Diversity of viruses, bacteria, fungi, algae, Pteridophytes & Gymnosperms 2. Plant Development, Reproduction, morphology, taxonomy of angiosperms including Cell, tissue & Organ Culture 3. Plant Ecology including utilization & conservation 4. Plant Cell Biology, Genetics, Molecular Biology & Biostatistics 5. Plant Physiology, biochemistry, metabolism including biotechnology	School of Biotechnology
9.	Biotechnology	Ph.D.(07)	1 . Molecular Biology & Genetic Eng. 2 . Enzymes & Enz. Technology 3 . Biomolecules 4 . echniques 5 . Bioinformatics & Biostatistics	School of Biotechnology
10.	Energy and Environment	Ph.D.(06) M.Phil.(13)	1. Renewable Energy 2. Electrical and Thermal Energy 3. Pollutions (air, soil, water & noise) 4. Solid Waste Management	School of Energy and Environment
11.	Physical Education	Ph.D.(14) M.Phil.(20)	1. Research Methods & Statistics 2. Scientific Principles of Training, Measurement & Evaluation in Physical Education 3. Sports Psychology & Sports Biomechanics 4. Exercise Physiology & Sports Medicine 5. Basic Computer Application, Professional Preparation & Curriculum Designs in	School of Physical Education

			Physical Education	
12.	Bio-Chemistry	Ph.D.(05)	1. Biochemistry 2. Enzymology 3. Molecular Biology and Biotechnology 4. Nutrition and Physiology 5. Immunology and Genetics	School of Biochemistry
13.	Computer Science	Ph.D.(04)	1. Computer Organization and Architecture 2. Operating System 3. Database Technologies 4. Computer Networks 5. Theory of Computation/ Compiler Design	School of Computer Science
14.	Commerce	Ph.D.(133) M.Phil.(20) M.Phil.(20) GACC	1. Business Environment 2. Business Statistics & Data Analysis 3. Accounting. 4. Income Tax & Tax Planning. 5. Entrepreneurship	School of Commerce
15.	Management	Ph.D.(70) M.Phil.(20)	1. Fundamentals of Management 2. Accounting and Financial Management 3. Marketing Management 4. Human Resource Management and Organizational Behaviour 5. Statistic	Institute of Management studies
16.	Pharmacy	Ph.D.(13)	1. Pharmaceutics (Weightage 30%) 2. Pharmaceutical and Medicinal Chemistry (Weightage 30%) 3. Pharmaceutical Analysis (Weightage 15%) 4. Pharmacology (Weightage 15%) 5. Pharmacognosy (Weightage 10%)	School of Pharmacy
17.	Applied Mathematics	Ph.D.(05)	1. Real Analysis 2. Complex Analysis 3. Ordinary Differential Equation 4. Matrices 5. Fourier Series	Institute of Engineering Technology
18.	Applied Physics	Ph.D.(02)	1. Classical Mechanics. 2. Electromagnetic Theory.	Institute of Engineering

			3. Quantum Mechanics. 4. Solid State Physics & Material Science. 5. Nuclear Physics.	Technology
19.	Applied Chemistry	Ph.D.(04)	1. Stereochemistry 2. Chemical Bonding & Co-ordination chemistry 3. Spectroscopic Methods of analysis 4. Solid State Chemistry & Chemical kinetics 5. Biomaterials & Polymers	Institute of Engineering Technology
20.	Mechanical Engineering	Ph.D.(02)	1. Design Engineering. 2. Thermal Engineering. 3. Production Engineering. 4. Industrial Engineering. 5. Tribology.	Institute of Engineering Technology
21.	Electronic and Telecommunication	Ph.D.(07)	1. Analog and digital Electronics. 2 Communication Engineering. 3 Probability theory, signal and system ,control system. 4 Microprocessor and Microcontroller. 5 Measurement techniques, sensors and transducers.	Institute of Engineering Technology
22.	Computer Engineering	Ph.D.(05)	1 Engineering Mathematics. 2 Data Structures and Algorithms. 3 Networks and Operating System. 4 Theory of Computation and Compiler Design. 5 Databases and Software Engineering.	Institute of Engineering Technology
23.	Information Technology (IT)	Ph.D.(02)	1.Engineering Mathematics. 2 Data Structures and Algorithms. 3 Networks and Operating System. 4 Theory of Computation and Compiler Design. 5 Databases and Software Engineering.	Institute of Engineering Technology
24.	Electronic & Instrumentation	Ph.D.(01)	1. Analog and digital Electronics. 2 Communication Engineering.	Institute of Engineering

			3 Probability theory, signal and system, control system. 4 Microprocessor and Microcontroller. 5 Measurement techniques, sensors and transducers.	Technology
25.	Law	M.Phil.(10)	1. Legal Education and Research Methodology 2. Law and Social Transformation in India 3. Indian Constitutional Law-New Challenges 4. Judicial Process, Administrative Law 5. Contract	School of Social Sciences
26.	Journalism and Mass communication	Ph.D.(03) M.Phil.(15)	1 Mass Communication 2. Media Research 3. Advertising 4. Development Communication 5. Media Law	School of Journalism and Mass communication
27.	Sociology	Ph.D.(21) M.Phil.(20) M.Phil.(20) GACC	1. 1Nature of social Reality and its approaches 2. Rural, Urban and Tribal Society 3. Kinship, Social change, crime and importance of census policy in India 4. Sociological Theories and Thoughts 5 . Political socialization, Political Culture and Democracy	School of Social Science
28.	Political Science	Ph.D.(07) M. Phil.(20)	1. 1 Indian Constitution 2. Indian government and politics 3. Political theory and thoughts 4. Public administration 5 Indian Foreign Policy and International Relations	School of Social Science
29.	Military Science	Ph.D.(04)	1. 1Study of Military History and Military System 2. Art and Science of War in India & west, Art and Science of War in nuclear age 3. International relations and National Defence & Security in India	School of Social Science

			4. Military Psychology, Strategic 5 5 Thoughts and Campaigns 5. Military Science and Technological Developments in India	
30.	History	Ph.D.(07) M. Phil.(20)	1. 1Ancient Indian History:- Earliest time to 1261 2. Medieval India 1206- 1707 3. Modern Indian 1707 – 1964 4. Salient features of Indian constitution ‘Nehru to Present times’ 5. Policy of Non Alignment of Independent India	School of Social Science
31.	Psychology	Ph.D.(020 M. Phil.(20)	<b>1.</b> 1 Attention and perceptual processes, Learning & memory <b>2.</b> Motivation and Intelligence <b>3.</b> Emotions <b>4.</b> Psychopathology and clinical psychology 5 Life Span Development and application of Psychology	School of Social Science
32.	Home Science	Ph.D.(16) M.Phil.(20)	1. Overview of Nutrients, National and International scenario of life style diseases and their management. 2. Concept and principles of human development 3. Elements of Art and Principles of Design, Study of Household equipments 4. Recent Trends in Textiles 5 Extension and Communication	School of Social Science
33.	Social Work	M. Phil. (20)	1. Introduction to Indian Society and Social Welfare, Social work Methods 2. Fundamentals of Human Growth Behaviour, Medical and Psychiatric Social Work 3. Community Organisation and Development 4. Human Resource Management	School of Social Science

			5. Urban & Rural Community Development, Social Development Legislations	
34.	Geography	Ph.D.( 06) M. Phil(920)	1. Geography of India and Madhya Pradesh 2. Population Geography 3. Physical Geography 4. Economic Geography 5 Environmental Geography	School of Social Science
35.	Instrumentation	Ph.D.(04)	1 Measurement Science And Sensors, Transducers 2 Analog & Digital Electronics 3 Control and Process Control 4 Analytical Instrumentation 5 Embedded System	School of Instrumentation
36.	Electronics	Ph.D.(05)	1.Signal Processing 2Optoelectronics 3Digital logic Design 4Microprocesors and Microcontrollers 5Analog, Digital and Wireless Communication	School of Electronics
37.	Education	Ph.D.(23) M.Phil.(16)	1Sociology of Education 2Philosophy of Education 3Advanced Educational Psychology 4Educational Research 5StatisticalTechniques in Research	School of Education
38.	Future Studies and planning	Ph.D.(06)	1 Forecasting Methods 2 Statistical Research Methods 3 Decision Analysis 4 Mathematical Modelling and Simulation 5 Data Analysis	School of Future Studies and planning
39.	Hindi ,Literature ,	Ph.D./(28) M.Phil.(20) M.Phil.(20) GACC	इकाई—1 शोध प्रविधि:— सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन। इकाई—2 भारतीय और पाश्चात्य काव्यशास्त्र इकाई—3 प्राचीन और मध्यकालीन काव्य एवं उसका इतिहास	School of Language

			इकाई-4 आधुनिक हिन्दी काव्य और उसका साहित्य इकाई-5 आधुनिक हिन्दी गद्य और उसका इतिहास	
40.	Urdu	Ph.D./ (07) M.Phil.(20)	इकाई-1 शोध प्रविधि:- सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।  इकाई-2 गजल, कसीदा व मर्सिया  इकाई-3 मसनवी व नज्म निगारी  इकाई-4 दास्तान व ड्रामा  इकाई-5 नावेल और अफसाना, तारीखे उर्दू जबान व अदब।	School of Language
41.	Sanskrit	Ph.D./ (00) M.Phil.(20)	इकाई-1 शोध प्रविधि:- सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।  इकाई-2 वैदिक साहित्य  इकाई-3 पुराण एवं आर्षकाव्य  इकाई-4 काव्यशास्त्रीय परिचय  इकाई-5 व्याकरण एवं भारतीय दर्शन	School of Language
42.	English	Ph.D.(10) M.Phil./ (20) M.Phil. (20) GACC	Unit-I Research Methodology, Review of related Literature. Unit-II Poetry Unit-III Drama Unit-IV Fiction Unit-V Prose	School of Language
43.	Philosophy	Ph.D.(07) M.Phil.(20)	इकाई 1- शोध प्रविधि:- सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।  इकाई 2- भारतीय दर्शन- वैदिक दर्शन, उपनिषद दर्शन, भगवद्गीता सांख्य योग, न्याय, वैशेषिक, मीमांसा एवं वेदान्त दर्शन। चार्वाक, बौद्ध एवं जैन दर्शन।  इकाई 3- पाश्चात्य दर्शन, समकालीन पाश्चात्य दर्शन और	School of Language



			<p>आधुनिक भारतीय चिंतक</p> <p>इकाई 4— नीतिशास्त्र और अर्थ नीतिशास्त्र</p> <p>इकाई 5— तर्कशास्त्र और धर्मदर्शन।</p>	
44.	Library and Information Science	M.Phil.(10)	<p>1.Information Communication and society</p> <p>2.Research Methods and statistical techniques</p> <p>3.Information storage and retrieval systems</p> <p>4.Information Technology applications in libraries</p> <p>5.Academic library system</p>	Central Library
45.	चित्रण एवं चित्रकला (ड्राइंग एवं पेंटिंग)	Ph.D.(12)	<p>इकाई 1— शोध प्रविधि:— सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।</p> <p>इकाई 2— भारतीय चित्रकला एवं भारतीय मूर्तिकला।</p> <p>इकाई 3— कला समीक्षा:— (सौन्दर्य— पाश्चात्य,सौन्दर्य— भारतीय, लोककला)</p> <p>इकाई 4— यूरोप की कला</p> <p>इकाई 5— पूर्व की कला।</p>	School of Language
46.	नृत्यकला (डांस)	Ph.D.(04)	<p>इकाई 1— शोध प्रविधि:— सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।</p> <p>इकाई 2— भारतीय नृत्यकला का इतिहास एवं शास्त्रीय नृत्य शैलियां</p> <p>इकाई 3— भाव तथा रस, अभिनय भेद</p> <p>इकाई 4— भारतीय रंगमंच का स्वरूप</p> <p>इकाई 5— पाश्चात्य नृत्यकला का इतिहास</p>	School of Language

47.	संगीतकला (म्यूजिक)	Ph.D.(17)	<p>इकाई 1- शोध प्रविधि:- सिद्धान्त व प्रकार, साहित्य का पुनरावलोकन।</p> <p>इकाई 2- भारतीय संगीत का इतिहास, राग एवं स्वर सप्तक, उत्तरभारतीय वाद्य संगीत के घराने, भारतीय शैलियां, रागों का शास्त्रीय परिचय</p> <p>इकाई 3- विभिन्न तालों का अध्ययन एवं लयकारी भारतीय संगीत के प्रमुख ग्रंथ और ध्वनिशास्त्र</p> <p>इकाई 4- रागों का अध्ययन,राग एवं स्वरसप्तक सांगितीक रचनाओं का अध्ययन,संगीत की पारिभाषिक शब्दावली का अध्ययन।</p> <p>इकाई 5- स्वर लिपि पद्धतियों का अध्ययन, संगीत शिक्षा,भारतीय कंठ संगीत के घराने एवं ग्रंथकार ।</p>	School of Language
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**Note:** Entrance Test will be conducted only for the subjects where there are some vacancies. These vacancies are tentative and may vary at the time of final selection. The M.Phil. classes will be held in the respective University Teaching Departments and also for mentioned subjects in the Govt. Shri Atal Bihari Arts and Commerce College (GACC), Indore. The Selection for all the programs will be done through entrance test followed by Interview before DRC.