

Lab:to
P.D.
Feb-2026

BLDE (DEEMED TO BE UNIVERSITY)

Duration: 1 ½ Hrs.

Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper I: RESEARCH METHODOLOGY

QP CODE – 6007

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Describe quantitative and qualitative research methods. Discuss their scope and utility in research.
2. Explain data collection methods and presentation of data using tables and graphical methods.
3. What is Review of Literature? Give importance of it in research. Describe various sources of Literature search.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Sample size calculation – importance and factors influencing it.
5. Role of journal club and seminar presentations in Ph.D. program.
6. Explain various methods of writing bibliography
7. CPCSEA Guidelines
8. Conflict of interest in research publications.

III. Answer the following

5 x 2 = 10 Marks

9. Define cohort study.
10. What is coefficient of variation?
11. Errors and Bias in Research
12. Use of Computers in research.
13. Validity and Reliability in research

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Pre – Ph.D. Course Work Examination

Paper I: Research & Publication Ethics

QP CODE – 6009

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Discuss the importance of ethics in science and research.
2. Explain authorship and contributorship issues in research publications.
3. Describe research metrics such as Impact Factor, h-index, and SNIP

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Explain fabrication and falsification with examples.
5. What are indexing databases? Give examples.
6. Write a short note on COPE guidelines.
7. What is plagiarism detection software? Name any two tools.
8. Explain predatory publishing practices.

III. Answer the following

5 x 2 = 10 Marks

9. Define moral philosophy.
10. What is salami publication?
11. Expand IPP.
12. What is g-index?
13. Name any one citation database.

24 PHD 005-
Feb-2026

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Biochemistry)

QP CODE - 6016

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Explain the biochemical basis of cancer. Add a note on Cervical cancer with respect to risk factors, diagnostic and prognostic biomarkers (3+2+3+2)
2. Describe in detail the molecular mechanisms that regulate treatment in cervical cancer.
3. Write sign & symptoms of cervical cancer, staging of cervical cancer in relation to the status of the lymph nodes. (4+6)

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. RT-PCR
5. Chemotherapy
6. Pattern of spread in cervical cancer
7. MTT assay
8. PET-CT imaging

III. Answer the following

5 x 2 = 10 Marks

9. Differential Scanning Calorimetry (DSC)
10. Dietary sources of Kaempferol.
11. List the cervical cancer cell lines
12. Transmission Electron Microscopy (TEM)
13. Nanoformulation

24 PHD006
Feb-2026

BLDE (DEEMED TO BE UNIVERSITY)

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Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Microbiology)

QP CODE - 6011

- I. Answer ANY TWO of the following** **2 x 10 = 20 Marks**
1. Describe Antimicrobial Drug Resistance in HIV.
 2. Explain the concept of One Health with special reference to 4C's of One Health.
 3. What is Biosafety Level Classification? Explain in detail each biosafety level with examples of pathogens handled.
- II. Answer ANY FOUR of the following** **4 x 5 = 20 Marks**
4. Explain the concept of universal precautions and their importance in preventing laboratory-acquired infections.
 5. What is meant by spill in a biomedical laboratory? Explain spill management procedure.
 6. Write a short note on decontamination with suitable examples.
 7. Describe the steps involved in viral replication in brief.
 8. Explain Post-exposure prophylaxis with respect to HIV.
- III. Answer the following** **5 x 2 = 10 Marks**
9. Differentiate between biosafety and biosecurity?
 10. What is Virion?
 11. What is ICTV?
 12. What is host specificity?
 13. What is Viral Tropism?

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Microbiology)

QP CODE - 6011

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Write a detailed account of the laboratory diagnosis of Staphylococcus aureus infections. Include specimen collection, direct microscopy, culture, biochemical tests, and antibiotic sensitivity testing.
2. Explain the importance of biosafety in bacterial cultivation. Include biosafety levels, PPE, biosafety cabinets, waste handling, and prevention of laboratory-acquired infections.
3. A 65-year-old ICU patient is found to be MRSA-positive on screening. Describe the infection control precautions and hospital measures required to prevent MRSA transmission to other patients and healthcare workers.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Good Laboratory Practices (GLP)
5. Differentiate HA-MRSA, CA-MRSA, and LA-MRSA strains.
6. Methods of gene transfer in bacteria
7. Explain enriched, selective, and differential media with examples
8. Preservation of cultures

III. Answer the following

5 x 2 = 10 Marks

9. Define Mordant with examples
10. Name 2 biochemical tests to differentiate staphylococcus from streptococcus
11. Define bactericidal drugs and bacteriostatic drugs
12. Expand E test
13. Classify cocci based on the arrangement

24PI+D008

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Pre – Ph.D. Course Work Examination Paper II: BACKGROUND PAPER (Life Sciences) QP CODE – 6022 (AHS)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Write note on NeuroGenetics
2. Next Generation Sequencing
3. Write note on Dementia

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Prevalence of Alzheimer Disease
5. Polymerase Chain Reaction
6. APOE Gene
7. Explain the stages of Alzheimer's disease
8. Describe the inheritance patterns commonly observed in neurogenetic disorders

III. Answer the following

5 x 2 = 10 Marks

9. Gene Therapy.
10. What is a point mutation? Give one example in neurogenetic disease
11. Mention two non-invasive methods used for prenatal genetic testing
12. Give two examples of neurogenetic disorders with autosomal dominant inheritance
13. What is genomic imprinting? Give one neurological disorder related to it

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Behavioral Health Sciences)

QP CODE – 6022 (AHS)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Discuss Principles of learning
2. CBT in Borderline Personality Disorder
3. Brain and Behavior

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Sibling rivalry
5. Challenges of Adolescent development
6. Eric Erikson
7. Write briefly on Thinking Process; Concept and Problem solving
8. Social motives

III. Answer the following

5 x 2 = 10 Marks

9. Physiology of Emotion
10. Thought Disorders
11. Enlist Personality Disorders under DSM 5
12. Who needs Psychotherapy
13. Pubertal changes in Boys and Girls

24PHD010

Feb-2026

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Biotechnology)

QP CODE – 6022 (S & T)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Describe the concept of in silico analysis. Explain the major computational tools and databases used. Discuss its applications in modern biomedical research.
2. Explain the mechanisms of neuronal death following hemorrhagic stroke.
3. Explain the therapeutic potential of snake venoms. Describe the key bioactive components and their mechanisms of action in developing clinically useful drugs.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. What are microRNAs (miRNAs)? Describe their role in gene regulation.
5. Explain the role of heat shock proteins (HSPs) in hemorrhagic stroke.
6. Explain the principle of polymerase chain reaction (PCR) and outline its major steps and applications in biomedical research.
7. Briefly describe the rodent models of hemorrhagic stroke.
8. Describe the role of interleukins in hemorrhagic stroke.

III. Answer the following

5 x 2 = 10 Marks

9. What is LD50?
10. State the principle of ELISA and mention its applications.
11. Differentiate RT-PCR and qPCR.
12. What are primers, and why are they essential in PCR?
13. What is Next-Generation Sequencing (NGS)? Mention its major applications.

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Library & Information Science)

QP CODE – 6022 (S & T)

- I. Answer ANY TWO of the following** **2 x 10 = 20 Marks**
1. Discuss the role of OER in improving access, and quality in higher education.
 2. What is the role of institutional support and policy in promoting OER usage?
 3. Discuss the contribution of libraries and librarians in promoting OER among faculty members.
- II. Answer ANY FOUR of the following** **4 x 5 = 20 Marks**
4. Define Open Educational Resources (OER).
 5. Discuss the use of OER in classroom teaching.
 6. Explain how OER support lifelong learning.
 7. Discuss faculty training programmes for OER usage.
 8. Explain quality concerns related to Open Educational Resources
- III. Answer the following** **5 x 2 = 10 Marks**
9. Write about the advantages OER.
 10. Explain Creative Commons license
 11. What is Open access?
 12. Intellectual property rights
 13. Mention any two challenges in the adoption of OER by faculty.

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Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Library & Information Science)

QP CODE – 6022 (S & T)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Research output: Interpret publication growth and citation patterns in this field using any five indicators.
2. Influential sources: Identify any five high-impact journals/author groups relevant to this topic and state why they are influential.
3. Mapping plan: Prepare a brief workflow for VOSviewer/Bibliometrix analysis from data download to visualization

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Define problematic smartphone use in children.
5. State Bradford's Law with one application.
6. What is keyword co-occurrence analysis?
7. Write a short note on co-authorship networks.
8. Write a short note on co-citation.

III. Answer the following

5 x 2 = 10 Marks

9. Define scientometrics.
10. Name any two bibliographic databases used for scientometric studies.
11. Mention any two mental-health outcomes linked to excessive mobile use in children.
12. What is h-index?
13. write about VOSviewer

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Pre – Ph.D. Course Work Examination**Paper II: BACKGROUND PAPER (Library & Information Science)****QP CODE – 6022 (S & T)****I. Answer ANY TWO of the following****2 x 10 = 20 Marks**

1. Describe SCOUNL Seven Pillars and application.
2. How do AI tools support quantitative data analysis?
3. Explain NVivo/ATLAS.ti AI features for research.

II. Answer ANY FOUR of the following**4 x 5 = 20 Marks**

4. Role of Research Rabbit literature?
5. How to verify generative outputs at Plagiarism Software ?
6. Map Big6 steps with AI?
7. Explain the benefits of Mendeley for academic research.
8. How does Elicit help in literature review?

III. Answer the following**5 x 2 = 10 Marks**

9. ChatGPT
10. Connected Papers
11. Mendeley
12. Big6
13. Seven Pillars model

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Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Library & Information Science)

QP CODE – 6022 (S & T)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Explain the concept of Artificial Intelligence and its relevance to information-seeking behavior in legal education.
2. Discuss changes in information-seeking behavior of law students due to the adoption of AI technologies.
3. Critically evaluate the advantages and limitations of AI-based information tools in law libraries.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. What are ethical issues in the use of AI?
5. Describe differences between traditional and AI-assisted legal information seeking.
6. Explain the relevance of AI literacy among law students.
7. Discuss factors influencing the adoption of AI tools among law students.
8. Explain the importance of evaluating AI-based information-seeking patterns among Law Students.

III. Answer the following

5 x 2 = 10 Marks

9. Write about the Artificial Intelligence effect on education.
10. What is Information-seeking behavior?
11. Narrate any two legal databases.
12. What is plagiarism? How to reduce the similarity?
13. Narrate about Manupatra.

24PHD015
Feb-2026
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Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Library & Information Science)

QP CODE – 6022 (S & T)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Discuss research methodologies suitable for evaluating digital information literacy skills among health science students.
2. Narrate the impact of emerging digital technologies on information literacy in health science education.
3. Explain the role of digital information literacy in lifelong learning and professional development of healthcare professionals.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Explain the importance of evaluation of online health information.
5. Describe the role of librarians in digital literacy training.
6. Explain survey and assessment tools used in digital literacy studies.
7. Describe the importance of Institutional repository in the academic libraries.
8. Describe barriers to effective use of digital information resources.

III. Answer the following

5 x 2 = 10 Marks

9. Role of open access resources in academics.
10. Narrate any two of the initiatives of INFLIBNET for students.
11. Narrate the Digital Literacy Skills.
12. What are the points to be considered in online information evaluation?
13. Write about importance of e-resources in academics.

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Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Library & Information Science)

QP CODE – 6022 (S & T)

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Explain the different Open Access models (Gold, Green, Hybrid, Diamond) with examples from medical journals.
2. How does Open Access increase research visibility and citation impact for medical faculty?
3. Discuss the role of funding agencies and APC waivers in promoting OA publishing.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. What is open peer review?
5. List five indicators of a predatory OA journal.
6. What is the use of Creative Commons licenses in OA?
7. Define institutional repository and its purpose.
8. What is copyright retention in OA publishing?

III. Answer the following

5 x 2 = 10 Marks

9. What is self-archiving?
10. Name two OA directories/databases.
11. Define predatory journal.
12. What is a hybrid journal?
13. What is the preprint?