QP Code: 821006 **Reg. No……**

Eighth Semester B. Pharm Degree Regular/Supplementary Examinations March 2026
Biostatistics and Research Methodology

(2017 Scheme)

Time: 3 Hours **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. Explain the randomized controlled trials and descriptive studies with suitable examples
2. a) Give a brief account on the importance of Research question and Hypothesis.
   b) Descriptive and Inferential statistics (3+7)

Short Notes **(7x5=35)**

3. Informed consent process
4. Validity and Reliability
5. One way and two-way ANOVA tests
6. Importance of Review of literature
7. Format for Research Protocol
8. Types and salient aspects of Epidemiological study designs
9. Types of Data distribution

Answer Briefly **(10x2=20)**

10. Discuss about standard deviation and its importance
11. What is meant by Research gap
12. What are the criteria for Inclusion and Exclusion
13. What is meant by Impact factor
14. Give an account on Pie charts
15. Explain Scatter plots
16. Where will be Wilcoxon signed-rank test used
17. Suppose that you have the following set of numbers: 9, 2, 5, 3, 6, 7, 5, 4
    Compute the value of the mean
18. How can we avoid confounding variables in research
19. Give an account on the optimal Sample size determination

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QP Code: 823006 **Reg. No……**

Eighth Semester B. Pharm Degree Regular/Supplementary Examinations March 2026
Pharmaceutical Marketing

(2017 Scheme)

Time: 3 Hours **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. Explain the importance of market research in pharmaceutical market analysis
2. Explain the various promotional techniques for over-the-counter (OTC) products

Short Notes **(7x5=35)**

3. Pharmaceutical distribution channels
4. Role of retailers in pharmaceutical marketing
5. Promotional mix
6. Selection, training, and evaluation of a professional sales representative
7. Objectives and strategies in drug pricing
8. Importance of vertical and horizontal marketing in the Pharma sector
9. Future prospects of professional sales representatives

Answer Briefly **(10x2=20)**

10. State the importance of global marketing
11. Define Brand. Mention the need for product branding
12. Write briefly on consumerism
13. Enlist the tasks involved in a physical distribution system
14. Methods of analyzing consumer behavior.
15. Define the product life cycle and mention its importance
16. Differentiate the qualitative and quantitative aspects of market research
17. Mention the importance of product portfolio analysis
18. Define marketing. Highlight the scope of marketing
19. Recall the formula for calculating the retail price of the drug as mentioned in the Drug Price Control Order

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QP Code: 826006 **Reg. No……**

Eighth Semester B. Pharm Degree Regular/Supplementary Examinations March 2026
Quality Control and Standardization of Herbals

(2017 Scheme)

Time: 3 Hours **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. Explain the various steps involved in preparation of documents for new drug application with its significance.
2. Elaborate on microscopical and physical evaluation of crude drugs with examples.

Short Notes **(7x5=35)**

3. Identification of alkaloids in extracts.
4. EU guidelines for quality control of herbal drugs.
5. Outline acute toxicity test for evaluating the safety and efficacy of herbal medicines.
6. Explain any two biological markers with their significance in standardization of herbal materials.
7. Outline the determination of pesticidal residue in herbal drugs.
8. Summarize the GAP guidelines.
9. How does pharmacovigilance work in safety monitoring of herbal medicines.

Answer Briefly **(10x2=20)**

10. What is swelling index.
11. Distinguish between diacytic and paracytic stomata.
12. Recall the formula to calculate moisture content by azeotrophic distillation.
13. Name the medias used for detection for E-Coli and staphylococcus.
14. Significance of GLP in traditional system of medicine.
15. Parameters for stability testing of herbal medicines.
16. Methods of plate preparation for thin layer chromatography.
17. Define the terms herbal tea and characterizing compound.
18. Recall the objectives of basic tests intended by WHO for pharmaceutical drugs.
19. Significance of morphological evaluation of crude drugs.

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QP Code: 828006 **Reg. No……**

Eighth Semester B. Pharm Degree Regular/Supplementary Examinations March 2026

Cell and Molecular Biology

(2017 Scheme)

Time: 3 Hours **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. Describe the structure and functions of Cell membrane. How does it impact the different types of cell signalling
2. Differentiate between DNA and RNA in terms of structure and functions. Explain briefly the steps involved in DNA replication.

Short Notes **(7x5=35)**

3. Explain briefly the structure and functions of Ribosomes in prokaryotes.
4. Describe the process of meiosis.
5. What is Genetic code. Write its significance.
6. Describe the Transamination reaction with examples.
7. Write the significance of Gregor Mendel Experiment.
8. What are the phases of Cell cycle
9. List out the different types of receptors with an example each.

Answer Briefly **(10x2=20)**

10. What are purines
11. Define Intron and Exons.
12. Write about Plasmid and its uses.
13. Define mutation with examples.
14. Define Isoelectric pH. Write its significance.
15. Write a short note on Deamination.
16. What is the importance of recombinant DNA technology
17. Write about Protein Kinases.
18. Define Paracrine signalling with examples.
19. List out the types of secondary messengers.

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