

QP Code: 821006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023**

**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 various types of parametric and non-parametric tests used in hypothesis testing.
2. List the advantages of representing data in graphical form. Convert the data presented in the following table to graphical form

Patient age range who reports with eye problem	10-20 years	20-30 years	30-40 years	40-50 years	50-60 years	Above 60 years
Percentage	10	10	25	30	15	10

(5+5)

**Short Notes**

**(7x5=35)**

3. What are basic concepts in writing a research paper.
4. Explain the procedure involved in testing of hypothesis.
5. Explain normal distributions with examples.
6. Discuss the significance of literature review in research.
7. What are the criteria for good research.
8. What are the difference between research methods and methodology.
9. Significance of research in pharmaceutical sciences.

**Answer Briefly**

**(10x2=20)**

10. Define dropouts.
11. Classify the types of data distribution.
12. Define plagiarism.
13. Type II errors in research.
14. Define intervention studies.
15. Probability sampling.
16. Odds ratio.
17. Define mode.
18. Define bibliography.
19. Write the different sources for literature review.

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QP Code: 822006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Social and Preventive Pharmacy  
(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 various nutritional deficiency disorders.
2. Explain in details on National TB control program.

**Short Notes**

**(7x5=35)**

3. Explain on concepts and evaluation of public health.
4. Write briefly on personal hygiene and health.
5. Explain on socio-cultural factors related to health and disease.
6. Explain the prevention and control of malaria.
7. Briefly explain on National leprosy control program.
8. Write the objectives and functions of national mental health program,
9. National family welfare program.

**Answer Briefly**

**(10x2=20)**

10. Explain the concept of prevention and control of diseases.
11. Mention the general principles of prevention of dengue.
12. Mention the prevention of ebola virus.
13. Discuss the functions of national program for deafness.
14. Discuss about National health intervention program for mother and child.
15. Briefly write on National urban health mission.
16. Describe the functions of PHC.
17. Mention the community services in school health.
18. Discuss the concept of Integrated Disease Surveillance Program (IDP).
19. Mention the prevention measures of HIV infection.

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QP Code: 823006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
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. Elaborate about various scopes, concepts and functions of Marketing. Write about Marketing Research.
2. Explain in detail about product life cycle and new product development.

**Short Notes**

**(7x5=35)**

3. Discuss in detail about Industrial buying behavior.
4. Write about motivation and prescribing habits of physician.
5. Describe about personal selling, advertising and sales promotion techniques.
6. Discuss in detail about methods of determining budget for promotional expenditure.
7. Explain the importance and salient features of DPCO (Drug Price Control Order).
8. Evaluation, compensation and future prospects of professional sales representative.
9. Global marketing of pharmaceuticals.

**Answer Briefly**

**(10x2=20)**

10. Differentiate between marketing and selling.
11. List out types of consumer buying behavior.
12. Write a note on qualitative and quantitative aspect of market research.
13. What do you mean by product decision.
14. Write about product positioning.
15. Define promotional mix.
16. What is the significance of direct mailing.
17. Mention factors to be considered while selecting the channels.
18. What are the benefits of E-detailing.
19. Write about customer related objectives of pricing.

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QP Code: 824006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Pharmaceutical Regulatory Science  
(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 principles of Good Clinical Practices
2. Discuss the various stages of drug discovery and development process

**Short Notes**

**(7x5=35)**

3. Describe the EU pharmaceutical legislation
4. Discuss investigational new drug approval process
5. Role of documentation in pharmaceutical regulatory approval process
6. Orange book
7. What are the objectives of New drug application
8. Explain the role of pharmacovigilance in marketing of drugs
9. Drug master file.

**Answer Briefly**

**(10x2=20)**

10. Define drug
11. Role of code of federal regulations
12. Significance of generic drugs
13. Institutional review board
14. Define NDA and ANDA
15. Which clinical investigations are exempted from IND requirements
16. Responsibilities of ethics committee
17. Write about sponsor
18. e-CTD
19. Federal register

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QP Code: 825006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Pharmacovigilance  
(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. Discuss in detail about Pharmacovigilance program of India
2. Describe in detail about drug safety evaluation in a) Paediatrics b) Geriatrics

**Short Notes**

**(7x5=35)**

3. Discuss about importance of safety monitoring of medicines
4. Discuss about the methods used in causality assessment
5. Describe about MedDRA and its standardised queries
6. Mention about the drug information resources
7. Explain about vaccine safety surveillance
8. Comparative observational study
9. International non-proprietary names of drugs

**Answer Briefly**

**(10x2=20)**

10. Compare and contrast ADE and ADR
11. Benefit-Risk analysis
12. Uppsala monitoring centre
13. What are the Lowest level terms in MedDRA Hierarchy
14. WHO-Adverse reaction terminologies
15. CIOMS
16. Drug event monitoring
17. D & C Act
18. What are Periodic Safety Update Reports (PSUR)
19. What is defined daily doses

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QP Code: 826006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023**

**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. Discuss the research guidelines for evaluating the safety and efficacy of herbal medicines.
2. Discuss the role of chemical markers in the standardization of herbal products.

**Short Notes**

**(7x5=35)**

3. Explain the methods to determine the volatile oil content in a crude drug.
4. Explain the principles of chromatography.
5. Describe the various parameters in herbal monograph.
6. Explain GLP in traditional system of medicine.
7. Describe any one method to determine moisture content of crude drug.
8. Categorize the various dosage forms using medicinal plant materials.
9. Distinguish TLC and HPTLC

**Answer Briefly**

**(10x2=20)**

10. Define cGMP.
11. Born Trager's test.
12. Significance of extractive values.
13. Foreign organic matter.
14. Objectives of GAP.
15. Importance of stability testing.
16. Mention any two guidelines for quality control of herbal drugs.
17. Importance of foaming index determination.
18. Tests to identify phenolic compounds.
19. Give examples for tannin drugs.

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QP Code: 827006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Computer Aided Drug Design  
(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. Define molecular docking. Classify and explain different molecular docking methods in detail.
2. Enumerate different physicochemical properties of a molecule and explain the role of various physicochemical parameters of a molecule in QSAR studies.

**Short Notes**

**(7x5=35)**

3. Pharmacophore mapping.
4. Explain ligand and structure based drug design.
5. Classify bioisosterism and discuss bioisosteric replacement.
6. Explain the principle involved in molecular dynamic simulations and its applications in drug design.
7. Explain Hansch analysis. Write its advantages and disadvantages.
8. Various methods involved in lead optimization process in rational drug discovery process.
9. What is homology modelling. Explain different steps involved in homology modelling.

**Answer Briefly**

**(10x2=20)**

10. Define 3D QSAR.
11. List out different energy minimization methods used in molecular mechanics.
12. Enumerate different stages involved in rational drug discovery process.
13. COMFA.
14. Write a note on pharmaceutical data bases.
15. Explain the force field used in molecular mechanics.
16. Role of quantum mechanics in drug design.
17. Binding free energy calculation in molecular docking.
18. Write the applications of *de novo* design.
19. Define cheminformatics.

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QP Code: 828006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
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. Detail on protein synthesis and its applications.
2. Define translation. Explain the phases and mechanism of translation.

**Short Notes**

**(7x5=35)**

3. Give an account on protein-kinases.
4. Describe the function of lysosomes.
5. Describe the process and function of mRNA in eukaryotic cells.
6. Write the function of gap junctions.
7. What is a second messenger and explain their functions.
8. Give an account on general properties of cytoplasmic matrix.
9. Write the difference between DNA and RNA.

**Answer Briefly**

**(10x2=20)**

10. Define semi conservation in DNA replication process.
11. Define cell signaling.
12. Define mutation.
13. Define nucleosome
14. What are restriction enzymes.
15. Define On and Off mechanism of lac operon concept.
16. Write the biological functions of amino acid.
17. What is active transport and passive transport.
18. What is function of promoters.
19. Define RNA and types of RNA.

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QP Code: 829006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Cosmetic Science  
(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. What are hair dyes. Explain the building blocks and formulation of hair dyes.
2. Describe sebumeter and corneometer with a neat labeled diagram.

**Short Notes**

**(7x5=35)**

3. Explain TEWL. How it is measured.
4. Describe hair growth cycle.
5. What are deodorants. Explain their mechanism.
6. Explain dry skin. What are the causes of dry skin.
7. Explain the formulation of antidandruff shampoos. Write a note on its building blocks.
8. Define and classify humectants.
9. Discuss in detail the formulation of vanishing cream and cold cream.

**Answer Briefly**

**(10x2=20)**

10. Define cosmetics as Indian drugs and cosmetics regulation.
11. What is gingivitis.
12. What are mouthwashes.
13. Write any one formula of moisturizing cream.
14. Classify sunscreen preparations.
15. Describe the noninvasive techniques for the measurement of skin color.
16. Explain blemishes.
17. Give four examples for actives used in Antiperspirants.
18. What is acne.
19. Classify hair care cosmetic preparations.

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QP Code: 830006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
December 2023  
Experimental Pharmacology  
(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 two models to screen anti-cancer activity of test compounds.
2. Explain animal models of acute and chronic inflammation to test the anti-inflammatory activity of compounds.

**Short Notes**

**(7x5=35)**

3. Write the principle of an electrically induced seizure model to test anti-convulsant activity.
4. Write a note on the maintenance of animals as per CPCSEA.
5. Explain a chemically-induced model of diabetes in rats.
6. Write about any two stress-induced ulcer models in rats.
7. Write the uses of rota-rod test in experimental pharmacology.
8. One animal model to test the activity of atropine-like drugs.
9. Differentiate transgenic and mutant animals.

**Answer Briefly**

**(10x2=20)**

10. Write the importance of positive control.
11. List two applications each, for hamsters and monkeys in experimental pharmacology.
12. List two methods of euthanasia followed earlier, which are now considered unethical as per CPCSEA standards.
13. What are the characteristic feature and application of db/db mice.
14. Explain the method that allows collection of large volume (> 5 ml) of blood from rats.
15. Interpret the absence of corneal reflex after instilling a test drug in the eye.
16. Name two classes of compounds that can contract rat fundus muscles.
17. List two animal models/tissues and their corresponding responses to evaluate sympathetic activity.
18. When do you use unpaired 't' test to analyze data.
19. What are ex-vivo studies.

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