

QP Code: 821006

Reg. No.....

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

**November 2022**

**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. Discuss the significance of literature review. Elaborate the types of literature review.
2. What is hypothesis testing. What are the main points should be considered while formulating the hypothesis. Write the types of statistical hypothesis. Discuss the basic concepts concerning testing of hypothesis. (1+2+2+5)

**Short Notes**

**(7x5=35)**

3. Enumerate various types of research. Explain any two.
4. Describe the steps involved in construction of a questionnaire.
5. Explain the measures of error and bias.
6. What are the different sampling techniques. Describe any ONE technique.
7. Calculate median for the following data:

Class	0-10	11-20	21-30	31-40	41-50	51-60
Frequency	48	62	130	105	58	52

8. With suitable examples, explain various types of variables.
9. Name various softwares used in biostatistics. Explain the features of any one.

**Answer Briefly**

**(10x2=20)**

10. Mention any four unethical practices in research.
11. Give the advantages of observation method of data collection.
12. Explain primary data. Give its limitations.
13. Explain case study. Write its importance.
14. Write the measures of disease frequency.
15. Give the advantages of cohort study.
16. Write the types of descriptive studies.
17. Why sample size is important for the analysis.
18. What are the measures of central tendency.
19. Explain Type I error and Type II error.

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QP Code: 822006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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. Discuss the concept of prevention and control of diseases with examples.
2. Explain objectives, functioning and outcome of HIV and AIDS control program.

**Short Notes**

**(7x5=35)**

3. Determinants of Health
4. Malnutrition
5. National program for prevention and control of deafness.
6. Role of WHO in Indian National Health Program.
7. Personal hygiene
8. Vitamin deficiencies.
9. Evaluation of public health

**Answer Briefly**

**(10x2=20)**

10. What are avoidable habits.
11. Prevention of polio myelitis.
12. Objectives of national tobacco control program.
13. Health education in schools.
14. Rural sanitation.
15. Name the indicators of health.
16. Concept of mental health
17. Current issues related to healthcare for the elderly.
18. Drug addiction.
19. What is universal immunization program.

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QP Code: 823006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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 product promotion as a key strategic variable in pharmaceutical market
2. Explain the importance of portfolio analysis in pharmaceutical industry

**Short Notes**

**(7x5=35)**

3. Product life cycle and its significance
4. Role of Professional sales representatives in pharmaceutical marketing
5. Product management in pharmaceutical industry
6. Sales promotion techniques
7. Motivation and prescribing habits of a physician
8. Role of market research in marketing a drug product
9. Issues in pricing in pharmaceutical industry

**Answer Briefly**

**(10x2=20)**

10. Define global marketing and mention its importance
11. Differentiate selling and marketing
12. Mention the importance of designing a proper channel for distribution
13. Define product mix and highlight its importance
14. Recall the objectives of Drug Price Control Order (DPCO) and mention the main features of DPCO 2013
15. State the main functions of National Pharmaceutical Pricing Authority (NPPA)
16. Mention the advantages of product branding
17. Highlight effect of patient's choice of physician and retail pharmacist in pharma market
18. List the factors to be studied for an ideal product positioning
19. Write a note on the size and composition of Indian Pharmaceutical Industry

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QP Code: 824006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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 various modules of Common technical document
2. Explain the protocol for submission of Investigational new drug application

**Short Notes**

**(7x5=35)**

3. What are the risks involved in clinical trials
4. What is the need for drug regulations
5. Procedure for export of pharmaceutical products
6. Post marketing surveillance
7. Approval process of generic drugs
8. Draw a flow chart for ANDA review process
9. Conditions for implementing changes to a new drug application

**Answer Briefly**

**(10x2=20)**

10. Drug master file
11. Define new chemical entity
12. Difference between clinical trial and clinical study
13. Mention the timelines involved in filing a new drug application
14. Who are subjects and what is their role in a clinical trial
15. Functions of CDSCO in India
16. Define law and act
17. Enlist the functions of institutional review board
18. Why clinical research needs to be regulated
19. Name the regulatory authorities of Canada, Australia, European union and Japan

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QP Code: 825006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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. Explain about ICH guidelines for Pharmacovigilance
2. Discuss in detail about i) cross sectional study ii) Case control study iii) Cohort study

**Short Notes**

**(7x5=35)**

3. Explain the establishment of pharmacovigilance program in a hospital
4. History and development of Pharmacovigilance
5. Passive surveillance
6. Mention about effective communication in Drug safety crisis management
7. Discuss about Differences in Indian and Global Pharmacovigilance requirement
8. Role of CDSCO in Pharmacovigilance
9. Explain in brief about Post approval phase of safety data generation

**Answer Briefly**

**(10x2=20)**

10. Explain PvPI
11. Classify ADR
12. Spontaneous reporting system
13. What are CIOMS working groups
14. What is International classification of diseases. Give one example
15. Schedule Y
16. Mention the Role of ICH in Pharmacovigilance
17. Pre-clinical phase of safety data generation
18. What are Sentinel sites
19. Name statistical Methods for evaluating Medication safety Data

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QP Code: 826006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022**

**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. Describe the accepted method for determining herbal medicine stability
2. Explain on WHO's guidelines on GACP for medicinal plants

**Short Notes**

**(7x5=35)**

3. Detection of alkaloids in medicinal plants
4. Write the procedure for determining the total-ash value
5. Explain the impact of chromatography techniques on herbal drug quality control
6. Role of GLP in the traditional medical system
7. Outline the guidelines for assessing the safety and efficacy of herbal medicines
8. Herbal drug regulation in India
9. How biological markers can be used to standardize the herbal products

**Answer Briefly**

**(10x2=20)**

10. Define the term pharmaceutical substances
11. Qualitative assessment of flavonoids
12. Significance of extractive values
13. Chemical evaluation of crude drugs
14. Adsorbents in thin-layer chromatography
15. Importance of swelling index
16. In what ways does gas chromatography contribute to the standardisation of herbal products
17. Visualizing agents in chromatography
18. What is the purpose of good manufacturing practices for botanicals
19. How does pharmacovigilance work

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QP Code: 827006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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 and classify QSAR with their advantages. Elaborate on the multi-parametric approach to QSAR as enunciated by Hansch.
2. Define Molecular Docking. Classify and explain different docking methods.

**Short Notes**

**(7x5=35)**

3. Explain about Lipinski's rule of five
4. Fragment based de novo drug designing.
5. Global energy minimum conformation
6. Explain in detail homology modelling and the method adopted for the generation of the 3D structure of a protein.
7. Hammett equation and steric effects.
8. Discuss about the structure based in silico virtual screening.
9. Explain COMFA and COMSIA

**Answer Briefly**

**(10x2=20)**

10. Brief about the role of computer applications in lead discovery.
11. Role of computers in lead optimization"
12. Lipophilicity effect with an example.
13. Write the advantages of free Wilson analysis.
14. Differentiate bioinformatics and cheminformatics.
15. Classify bioisosterism.
16. What are energy minimization methods.
17. What are docking components.
18. Define simulation.
19. Applications of Quantum Mechanics in drug design

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QP Code: 828006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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. Explain the signaling pathways and functions of protein kinase.
2. Detail on cell cycle and various phases of cell cycles; note on significance of Mitotic cell division.

**Short Notes**

**(7x5=35)**

3. Write any two cytological techniques used in cell biology.
4. Explain the difference between prokaryotic and eukaryotic cells.
5. Describe the structure and function of Mitochondria.
6. Describe DNA replications and its enzymes.
7. Write a note on genetic codes.
8. Give an account on protein structure.
9. Explain how the P53 gene acts as a tumor suppressor.

**Answer Briefly**

**(10x2=20)**

10. What are the various membrane receptors.
11. Define transcription.
12. What are the functions of RNA.
13. Write the principle of DNA finger printing.
14. Define pinocytosis.
15. What are the check points involved in cellular functions.
16. Receptors involved in cell signals.
17. Define cellular reproduction.
18. Applications of cellular and molecular biology.
19. Describe the function of proteins.

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QP Code: 829006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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. Describe the structure and functions of the skin with neat labeled diagram.
2. Discuss various materials used in manufacturing of moisturizing cream.

**Short Notes**

**(7x5=35)**

3. What are different types of wrinkles. Give reasons.
4. With a neat-labeled diagram explain Sebumeter.
5. Explain on hair fall. Explain in detail about its prevention.
6. What are the common problems associated with teeth and gums.
7. Discuss in detail various advantages and disadvantages of cold cream.
8. Write analytical methods for skin cream.
9. Role of herbs in cosmetics

**Answer Briefly**

**(10x2=20)**

10. Define and classify cosmetics.
11. Define and classify surfactants.
12. Write application of humectants.
13. Define antidandruff shampoos. Give one example.
14. Write any one formula for deodorant powder.
15. Write the limitations of hair tensile strength measurement.
16. Classify sunscreen preparations.
17. What is SPF. Give its significance
18. What are hair conditioners.
19. Give examples for teeth whitening products

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QP Code: 830006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
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 evaluate anti-hypertensive activity of test compounds.
2. Explain the principle and procedure of a screening model to evaluate learning and memory, using rodents.

**Short Notes**

**(7x5=35)**

3. Explain a model to test anti-parkinsonism activity of test compounds.
4. Breeding of animals as per CPCSEA.
5. A procedure to test anti-coagulant activity of test compounds.
6. A method to test cytotoxicity of compounds using cell lines.
7. Experimentally, how do you evaluate if a compound can induce mydriasis.
8. Student 't' test to analyze data.
9. One animal model to test the activity of beta receptor blockers.

**Answer Briefly**

**(10x2=20)**

10. The suitability of rodents for screening anti-emetic activity of test compounds.
11. List two applications each, for hamsters and monkeys in experimental pharmacology.
12. Give two examples each for parenteral and inhalational general anaesthetics used in laboratory animals.
13. What are the applications of transgenic animals.
14. Write the types of bedding materials for rodents.
15. Can you evaluate cycloplegic activity of a test compound using rabbits.
16. List two animal models/tissues and their corresponding responses to evaluate adrenergic alpha-blocking activity.
17. Name two classes of compounds that can contract tracheal muscles.
18. When do you use ANOVA to analyze data.
19. What are pie charts

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QP Code: 831006

Reg. No.....

**Eighth Semester B. Pharm Degree Supplementary Examinations  
November 2022  
Advanced Instrumentation Techniques  
(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 principle, instrumentation and applications of differential scanning calorimetry.
2. Explain the principle of proton NMR along with the factor affecting the chemical shift.

**Short Notes**

**(7x5=35)**

3. Explain Matrix assisted laser desorption ionization.
4. Explain the calibration of flame photometer.
5. Explain powder diffraction.
6. Explain the importance of C-13 NMR in structured elucidation of compound.
7. Explain the calibration of GC.
8. Explain liquid-liquid extraction.
9. GC-MS/MS.

**Answer Briefly**

**(10x2=20)**

10. Calibration of IR spectrophotometer.
11. Application of Radio immuno assay.
12. Application of X-ray in structural elucidation.
13. Spin-spin coupling.
14. Applications of differential thermal analysis.
15. Time of flight analyses in mass spectrometry.
16. Application of LC-MS/MS.
17. Fragment peaks in mass spectra.
18. List out the applications Mass Spectrometry.
19. List out validation parameters as per ICH guidelines.

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