

FACULTY OF PHARMACY

B. Pharmacy VII - Semester (CBCS) (Suppl.) Examination, November 2020

Subject: Biopharmaceutics & Pharmacokinetics

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4 x 17^{1/2}=70Marks)

1. a) Describe the theories proposed for the dissolution process with labeled diagrams.
b) Explain about carrier mediated transport and its importance.
2. a) Explain pH partition hypothesis and its limitations.
b) How does salt form of drug improve absorption?
3. a) Discuss significance of Drug-protein binding.
b) Write a note on apparent volume of distribution.
4. a) Explain the factors effecting drug-protein binding.
b) Write the factors affecting drug distribution.
5. a) Explain pathways of drug biotransformation.
b) Explain about first pass effect and its implications.
6. a) Explain renal excretion of drugs.
b) Explain physiochemical factors influencing renal excretion of drugs.
7. a) Define clearance. Explain the concept of renal clearance.
b) Explain the following (i) C_{max} (ii) AUC.
8. a) Explain drug-drug interaction mediated through distribution and metabolism.
b) Explain dose adjustment in hepatic diseases.
9. a) Draw equations describing two-compartment open model.
b) Explain plasma elimination half-life in one compartment.
10. A 59 kg male received 2 mg/kg of antibiotic orally and following blood data was obtained. Assuming that the drug follows one compartment open model and is completely absorbed. Calculate all possible pharmacokinetic parameters.

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|------------------------------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Time (hr) | 0.25 | 0.5 | 0.75 | 1 | 1.5 | 2 | 2.5 | 3 | 4 | 6 | 8 | 12 | 18 | 24 |
| Plasma Concentration (mg/mL) | 2.2 | 3.8 | 5 | 5.8 | 6.8 | 7.1 | 7.1 | 6.9 | 6.2 | 4.8 | 3.5 | 1.9 | 0.8 | 0.3 |

FACULTY OF PHARMACY

B. Pharmacy VII-Semester. (CBCS) (Suppl.) Examination, October 2020

Subject: Medicinal Chemistry-II

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

- 1 (a) Define & classify NSAIDS with structural examples
(b) Outline the structure, synthesis & uses of following drugs
(i) Diclofenac (ii) Ibuprofen
- 2 (a) Define & classify Narcotic analgesics with structural examples
(b) Write the SAR of Morphine analogues
- 3 (a) Write a note on Cephalosporins
(b) Outline the synthesis & mode of action of following drugs
(i) Busulfan (ii) Sulphamethoxazole
- 4 (a) Define & classify antibiotics and discuss briefly about amino glycoside antibiotics.
(b) Write the classification of Antineoplastic agents with examples.
- 5 (a) Explain the life cycle of Malaria parasite & write the classification of anti malarial agents.
(b) Write the structure, IUPAC name, Mode of action and uses of following drugs.
(i) Zidovudine (ii) Metronidazole
- 6 (a) Classify antitubercular drugs and write the synthesis & mode of action of INH
(b) Write a note on Anthelmintic drugs.
- 7 (a) Define & classify Sedatives and hypnotics with examples.
(b) Outline the synthesis, mechanism of action & uses of following drugs
(i) Imipramine (ii) Diazepam
- 8 (a) Define & classify Antipsychotic agents.
(b) Write a note on Antiparkinsonism agents.
- 9 (a) Write the structure & functional role of essential amino acids.
(b) Write the structure, biochemical role & uses of vitamins A, B₁ & C
- 10 (a) Write a note on fat soluble vitamins.
(b) Write a brief note on development of protein drugs.

FACULTY OF PHARMACY

B. Pharmacy VII - Semester (CBCS) (Suppl.) Examination, October 2020

Subject: Pharmaceutical Analysis – II (Instrumental Methods of Analysis)

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

1. Discuss the principle, Instrumentation and applications of UV-visible Spectroscopy.
2. (a) Add a note on different types of detectors with their advantages and disadvantages used in Uv-visible Spectrophotometer.
(b) Derive Beers law and explain the deviation from Beers' Law.
3. Explain the principle, Instrumentation and applications of IR spectroscopy.
4. (a) Describe the interpretation of IR spectra with four examples of schematic Spectra.
(b) Add a note on different types of detectors used in IR spectroscopy.
5. (a) Explain the instrumentation involved in mass spectroscopy.
(b) Explain the applications of NMR spectroscopy.
6. (a) Explain the instrumentation involved in NMR Spectrophotometer.
(b) Explain the principles involved in Fluorescence and Phosphorescence.
7. (a) Differentiate between DTA and DSC.
(b) Explain the Instrumentation in Flame photometer.
8. (a) Differentiate between Nephelometry and turbidimetry.
(b) Explain the different types of indicator electrodes in potentiometric titrations.
9. (a) Discuss the different types of detectors used in Gas Chromatography.
(b) Define Electrophoresis and add a note on applications of Gel electrophoresis.
10. (a) Explain the principle Instrumentation and applications of HPLC.
(b) Write the applications of Paper Electrophoresis.

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B. Pharmacy VII - Semester (CBCS) (Suppl.) Examination, October 2020

Subject: Pharmaceutical Business Management

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

1. Explain different management information systems applicable to top, middle and lower levels of management.
2. Explain about production planning and quality control.
3. Describe various utilities and services to be made available in a pharmaceutical industry.
4. Explain the factors influencing plant location and layout.
5. Describe the procedure for stock accounting and explain various records applicable to it.
6. (a) What is economic order quantity and its significance in stores management.
(b) Explain various steps involved in material purchasing.
7. Explain the importance of selection, training, evaluation and merit rating of employees in company.
8. (a) What is morale and explain its role in productivity.
(b) Describe the reasons for fatigue and mention the remedies to prevent it.
9. What is marketing mix and explain the merits and demerits of different channels of distribution.
10. Describe different pricing strategies for the fixation of price of a product.

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FACULTY OF PHARMACY

**B. Pharmacy VIII-Semester (CBCS) (Main) Examination, September 2020 Subject :
Cosmetic Technology**

Time: 2 Hours

Max. Marks: 70

**Note: Answer any Four Questions
(4 x 17^{1/2} = 70 Marks)**

- 1) a) Define cosmetics. Explain the structure and functions of skin
b) Discuss in detail the importance of cosmetic applications in day-to-day life.
- 2) a) Enlist the labeling requirements for cosmetics products.
b) Enumerate different types of colouring agents that are used in cosmetic preparations.
- 3) a) Discuss about the raw materials used in manufacturing of Vanishing creams with two examples of preparations.
b) Write in detail about the various stages involved in the manufacture of lipsticks.
- 4) a) Enlist baby specialty products giving marketed examples for each and add a note on formulation and manufacture of baby shampoo.
b) Write a note on formulation of eye shadows and mascaras.
- 5) a) Mention the differences between lather shaving cream and brushless shaving cream write about the formulation of a lather shaving cream.
b) Discuss about nail preparations.
- 6) a) Discuss about formulation. Manufacturing and evaluation of bleaching preparations.
b) Discuss about quality control of Talcum powders.
- 7) a) Discuss about formulation and evaluation of shampoos.
b) Write a note on quality control of tooth paster.
- 8) a) Classify Hair dye preparations. Discuss about formulation of hair dyes
b) Write a note on Hair creams
- 9) a) Discuss about formulation and preparation of Herbal conditioners
b) Write a note on Herbal face packs.
- 10) a) Define Herbal cosmetics. Discuss about herbal body oils.
b) Discuss the formulation and manufacture of herbal moisturizing lotions.

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B. Pharmacy VIII-Semester (CBCS) (Main) Examination, Sept / Oct 2020

Subject : Current Good Manufacturing Practice (cGMP) (Elective)

Time: 2 Hours

Max. Marks: 70

(4 x 17^{1/2} = 70 Marks)

Note: Answer any Four Questions.

- 1) a) Write a note on principles of cGMP
b) Write about Schedule M.

- 2) a) Write about USFDA guidelines on pharmaceutical manufacturing.
b) Write a note on Import and Export of pharmaceutical products.

- 3) Write the selection, purchase and maintenance of stores for raw materials and pharmaceutical equipments as per cGMP.

- 4) Write about cGMP complied packaging, documentation and labeling requirements of regulated and non – regulated markets for various dosage forms.

- 5) Write a note on ISO 9000 and 14000 series in guidance to pharmaceutical manufacturing facilities.

- 6) a) Write a note on documentation practices.
b) Write a note on principles of Total Quality Management (TQM)

- 7) Write about i) General principles of validation
ii) Importance and scope of validation
iii) General principles of analytical method validation

- 8) Write a note on i) Types of validation
ii) Validation Master Plan (VMP)
iii) Good warehousing practice

- 9) a) What is validation? Write the types and approaches of validation.
b) Write a brief note on qualification of HVAC systems.

- 10) a) Write a brief note on handling of return goods recalling and waste disposal.
b) Write a note on i) Batch and Master formula record
ii) Common technical document and Drug master files.

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B. Pharmacy VIII-Semester (CBCS) (Main & Backlog) Examination, September

2020 Subject : Pharmaceutical Biotechnology

Time: 2 Hours

Max. Marks: 70

Note: Answer any Four questions.

(4 x 17½ = 70 Marks)

- 1) Describe in detail about pBR 322 vector and DNA replication
- 2) What are Restriction Endonucleases, DNA Ligases, DNA polymerases, SI nucleases, Alkaline Phosphatases, Terminal transferases and explain how they used for DNA cloning?
- 3) Explain in detail about culture, media and production conditions of *Lactobacillus sporogenes*.
- 4) Explain about microbiological assay of any one antibiotic by Diffusion method.
- 5) Classify vaccines. Write in detail about manufacturing. Standardization, storage of Diphtheria vaccine.
- 6) Write in detail manufacturing of live attenuated bacterial vaccines.
- 7) What are ideal requirements of plasma substitutes and explain production of plasma substitutes.
- 8) Describe the isolation and purification of pure substances from pituitary and Adrenal glands.
- 9) (i) Give the general composition of media used in animal cell culture.
(ii) Applications of animal cell culture.
- 10) Explain in detail about production of Monoclonal antibodies

FACULTY OF PHARMACY

B. Pharmacy VIII-Semester (CBCS) (Main) Examination, September 2020

Subject: Pharmacovigilance (Open Elective)

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

1. (a) Describe about the WHO international drug monitoring programme.
(b) Write a note on history of pharmacovigilance.
2. (a) Write a note on predictability and preventability assessment of ADR.
(b) Explain about the management of ADR.
3. (a) Explain about the MeDRA and daily defined doses.
(b) Write a note on establishment of pharmacovigilance centre in CRO.
4. (a) Write in brief about basic drug information resources.
(b) Write a note on international non-proprietary names for drugs.
5. (a) Describe about the targeted clinical investigations.
(b) Write a note on spontaneous reporting system.
6. (a) Explain in brief about active surveillance.
(b) Write a note on vaccination failure.
7. (a) Describe the role of clinical phase in safety data generation.
(b) Write a note on post approval expedited reporting.
8. (a) Explain the good clinical practice in pharmacovigilance.
(b) Write a note on pharmacovigilance planning.
9. (a) explain about the schedule-Y of drugs and cosmetic act.
(b) Write a note on CIOMS working groups.
10. (a) Explain about the drug safety evaluation in pediatrics.
(b) Write a note on necessary requirements for Indian pharmacovigilance programme.

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B. Pharmacy VIII-Semester (CBCS) (Main) Examination, Sept / Oct 2020

Subject : Pharmacoinformatics

Time: 2 Hours

Max. Marks: 70

Note: Answer any Four Questions

(4 x 17^{1/2} = 70 Marks)

- 1) a) Define Database? Write about various types of databases.
b) Write about Codd's rules.
- 2) a) Write about database normalization.
b) Write about Phylogenetic analysis?
- 3) What is sequence alignment? Explain dynamic programming method for sequence alignment.
- 4) a) Write about storage and retrieval of information.
b) Write about Hidden Markov Models and its applications.
- 5) a) Write about various types of drug information resources available. Explain with examples.
b) Write a note on Barcodes.
- 6) a) What is Pharmacy Automation? Write its application in medication dosage. Filling & packaging, medication distribution and inventory control
b) Write a note on emergency treatment of poisoning.4
- 7) a) Write about i) Genbank ii) Cosmid Libraries
b) What are DNA sequencing methods? Write about Maxam Gilbert and Senger method for DNA sequencing.
- 8) Write a note on following protein databases
i) Prosite ii) PDB iii) SCOP iv) CATH
- 9) a) What is SAR and QSAR? Write in detail about Hansch analysis and Free-Wilson analysis for drug
b) Write a note on docking.
- 10) a) Explain drug receptor theories with examples.
b) Write a note on i) Energy minimization ii) Bioisosterism.

FACULTY OF PHARMACY

B. Pharmacy VIII-Semester (CBCS) (Main) Examination, Sept / Oct 2020

Subject : Hospital and Clinical Pharmacy

Time: 2 Hours

Max. Marks: 70

Note: Answer any Four Questions.

(4 x 17^{1/2} = 70 Marks)

- 1) a) Explain in detail organization and functions of Infection control committee and antibiotic committee?
b) Add a note on hospital drug policy?
- 2) a) Explain in detail organization, Functions and documentation of research and ethics committee?
b) Write a note on drug exchange program?
- 3) a) Describe in detail different types of drug distribution system in a hospital?
b) What is the role of pharmacist the rapectics committee in a hospital?
- 4) a) Describe how controlled substances are distributed to wards? What are the steps to be taken to control the same?
b) Write a note on ABC analysis?
- 5) a) What are drug related problems (DRP). Explain with examples?
b) Write a note on medication history interview?
- 6) Explain in detail lab parameters to be determined for kidney and liver disorders.
- 7) a) What are satellite pharmacy services?
b) Explain in detail different types of surveillance methods of adverse drug reaction?
- 8) Describe in detail drug induced skin disorders and teratogenicity?
- 9) Explain the pathophysiology of Hypertension and Asthma?
- 10) Explain the pharmacotherapy of tuberculosis and diabetes?
