

FACULTY OF PHARMACY**B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024****Subject: Biostatistics & Research Methodology****Time: 3 Hours****Max. Marks: 75****PART - A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Give importance of biostatistics in Pharmacy.
2. Hardness of 6 tablets is found as 6,8,5,7,9 and 11. Find mean and median.
3. Find the mode and range for the angle of repose values of granules given as 13,18,13,14,13,16,14, 21 and 13.
4. Define the term probability.
5. What is meant by sample?
6. What is the need for Research?
7. Mention different types of graphs.
8. What is meant by Hypothesis?
9. Give different statistical tools available in EXCEL
10. What are the advantages of factorial design?

PART - B**Note: Answer any two questions.****(2 x 10 = 20 Marks)**

11. Discuss on report writing in research methodology.
12. What is parametric test? Explain one way ANOVA in detail.
13. Give informative notes on (A) Correlation (B) Plagiarism

PART - C**Note: Answer any seven questions.****(7 x 5 = 35 Marks)**

14. The relative humidity values in a tablet production department of a pharmaceutical company from Monday to Saturday were recorded as 60,62,65,69,75 and 65. Calculate standard deviation.
15. Twenty hard gelatin capsules were examined for its physical properties. The frequency with a given number of defects per capsule is given. What is the probability of finding a capsule chosen at random contains 3 or more surface defects?

Number of Defects	0	1	2	3	4	5	6
Frequency	4	3	5	2	4	1	1

16. Write notes on any one non-parametric test.
16. What is sampling? Explain different types of sampling techniques.
17. Write about different types of graphs.
18. Explain the features of MINITAB in brief.
19. Write about experimental design?
20. Obtain the line of regression of Y on X for the following data

Age in Yrs (X)	66	38	56	42	72	36	63	47	55	45
Blood Pressure (Y)	145	124	147	125	160	118	149	128	150	124

21. Explain 2^2 factorial design.
22. Give informative notes on response surface methodology.

FACULTY OF PHARMACY
B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024
Subject: Social and Preventive Pharmacy

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a note on concept of public health?
2. What is Balanced diet?
3. What is drug addiction? Give few examples.
4. Write a note on prevention and control of hypertension?
5. What are the functions of PHC?
6. Write the objectives of pulse polio programme?
7. What are the strategies of national tobacco control programme?
8. Write a note on Impact of urbanization on health and disease?
9. Explain different types of diabetes mellitus?
10. Write a note on improvement in rural sanitation?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. (a) Explain various socio-cultural factors related to health and disease.
(b) Write a note on personal hygiene and healthcare.
12. (a) Write about the transmission, signs & symptoms, and treatment of Pneumonia.
(b) Write a note on Universal immunization programme.
13. (a) Write a note on Social health programme.
(b) Explain about the health promotion schemes in school.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on Vitamin deficiencies.
15. Explain malnutrition and its prevention.
16. Write a note on prevention and control of Drug addiction.
17. Describe the various roles of WHO in Indian national programs.
18. Write a note on Integrated Disease Surveillance Project (IDSP).
19. Write a note on National Family welfare programme.
20. Write a note on general principles of prevention and control of Dengue.
21. Write a note on objectives, functions and outcomes of TB control programme.
22. Write the risk factors, diagnosis and treatment of Cancer.

FACULTY OF PHARMACY

**B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024
Subject: Pharma Marketing Management (Elective -I)**

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the question.

(10 x 2 = 20 Marks)

1. Distinguish between marketing and selling.
2. Give an overview of Drug Price Control Order.
3. What is market segmentation and targeting?
4. What is sampling in promotion?
5. Define consumerism.
6. What is product branding?
7. What is Physical distribution management?
8. What are the objectives of Pricing?
9. What are the future prospects of Professional sales representative?
10. Write about product life cycle.

PART – B

Note: Answer any two question.

(2 x 10 = 20 Marks)

11. Write in detail about packaging and labeling decisions.
12. Discuss about Vertical and Horizontal Marketing.
13. Write a note on Pharmaceutical marketing channels.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. How a business management person maintains public relations?
15. What are the online promotional techniques for OTC products?
16. What are the duties of Professional sales representative (PSR)?
17. Write a note on Product decision
18. Explain about the patient's choice of physician and retail pharmacist.
19. Write about emerging concepts in marketing.
20. Give an overview of personal selling and advertising.
21. Write about global marketing.
22. What are the different components in marketing environment?

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024

Subject: Pharmaceutical Regulatory Science (Elective - I)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define (a) DMF (b) CTD.
2. Explain pre-clinical studies.
3. Define concept of generics.
4. Explain orange book, federal register.
5. What are Exclusion criteria in clinical trials.
6. Define Organogram of CDSCO.
7. What is clinical trial. Define pharmacovigilance?
8. Describe Objectives of regulatory affairs.
9. Write about Regulatory authorities of Canada.
10. What is good clinical practice

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write about drug development process.
12. Write a note on ANDA.
13. Explain in detail stages of drug delivery.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Briefly discuss CTD and eCTD.
15. Explain the technical documentation required for regulation of Indian drug product.
16. What is Orange book? Explain.
17. Write a note on 21 CFR.
18. Explain the GCP obligations of investigators.
19. Describe in detail new drug approval process along with its documentation requirements as per USFDA.
20. Describe formation and working procedure of independent ethics committee.
21. Briefly explain about India regulatory authority
22. What is electronic common technical document?

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024

Subject: Pharmacovigilance (Elective - I)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the adverse drug reaction.
2. What are CIOMS working groups?
3. What is phase IV of clinical trials?
4. Write a short note on Harmonization.
5. Discuss the PSUR.
6. What is eudravigilance.
7. Explain ICH Steering Committee.
8. What is teratogenicity? Give examples.
9. Illustrate the importance of Pharmacogenomics.
10. Describe common technical document.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Differentiate between adverse drug reactions and adverse events with suitable examples. Explain the mechanisms of Type-A and Type-B ADRs.
12. (a) Write a note on MedDRA.
(b) Write a note on Pharmacovigilance program of India (PvPI).
13. Explain the criteria for Drug safety evaluation in Pediatric population.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Describe in details CDSCO in India.
15. Explain the Schedule Y of Drugs and Cosmetics Act in brief.
16. Write about CROs in pharmacovigilance.
17. Discuss Naranjo's and WHO causality scales.
18. Write a note on post approval expedited reporting.
19. What is CIOMS? Enlist various CIOMS working groups and give their functions.
20. Discuss in brief the objectives of ICH guidelines.
21. Explore the Pre- marketing and Post marketing clinical trials.
22. Explain about eudravigilance medicinal product dictionary.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024

Subject: Computer-Aided Drug Design (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Differentiate among lead, drug candidate & drug.
2. Explain metabolism-based lead discovery with an example.
3. What is 3D QSAR technique? Give examples.
4. Explain the significance of the partition coefficient.
5. What is pharmacophore mapping?
6. Define *de novo* drug design.
7. Write the applications of cheminformatics tools in drug design.
8. What is the importance of ADME databases? Give a few examples.
9. Define the terms molecular mechanics and quantum mechanics.
10. What is conformational analysis?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain the methodology involved in Hansch QSAR analysis with its advantages & disadvantages. Highlight its role in predicting biological activity with a model QSAR equation.
12. Describe the concept of docking-based virtual screening in drug design.
13. Explain various stages involved in drug discovery and development.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Describe the serendipitous discovery of drugs.
15. Classify bioisosteres with examples.
16. Describe Free-Wilson QSAR analysis with its advantages and disadvantages.
17. Discuss the methodology involved in CoMFA.
18. Explain Lipinski Rule of Five. How does it help in Drug design?
19. Explain chemical databases with suitable examples. Give their importance in drug design.
20. Describe the applications of bioinformatics tools in drug design.
21. Write about various energy minimization methods.
22. Write the applications of quantum mechanics in drug design.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024
Subject: Quality Control and Standardization of Herbals (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write about traditional system of medicine.
2. Write the biological method of crude drug evaluation with examples.
3. Explain the significance of ICH guidelines.
4. Write the test procedure of prednisolone phosphate.
5. How do you authenticate medicinal plants.
6. Write a note on cGMP.
7. Explain Lycopodium Spore Method – Formula.
8. Write a note on long term toxicity test.
9. What are weedicides? Mention two examples.
10. Explain the stability testing of herbal medicine.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain different requirements to follow Good manufacturing practice? Why it is followed in herbal drug industry.
12. Discuss the guidelines given by European medicine agency on quality of traditional herbal medicine.
13. Write the comparison of various famous herbal pharmacopoeias.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on good collection practices for herbal drugs.
15. Write the GMP requirement for herbal medicine.
16. Explain the preparation of document for new drug application.
17. Discuss the protocol for clinical guidelines in herbal medicine.
18. Enumerate various aspects of GLP.
19. Write the applications of chromatography technique in the standardization of herbal drugs.
20. Write briefly about stability studies of herbal medicinal products.
21. Describe the basic test for medicinal plant materials.
22. Write a note on research guidelines for evaluating safety and efficacy of herbal medicine.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024

Subject: Cell & Molecular Biology (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the basic features of cell theory?
2. Describe prophase-I of meiosis in brief.
3. Write about physical properties of DNA.
4. Write the functions of rRNA and mRNA.
5. What are essential and non-essential amino acids? Give examples.
6. Give a brief classification of proteins.
7. What are 'Restriction endonucleases' and write their function.
8. Enlist various enzymes used in genetic engineering.
9. Define ligands and receptors.
10. Enlist important intracellular signalling pathways.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain in detail about the properties of cell membrane. Differentiate between Prokaryotic and Eukaryotic cell.
12. Describe in detail about regularities in Protein pathway.
13. Describe Southern blotting technique and its applications.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Briefly describe various components of a typical prokaryotic cell.
15. Describe Transcription and Translation.
16. Write the structure and functioning of DNA.
17. Describe types of RNA and flow of molecular information.
18. Describe any five colour reactions of proteins.
19. Explain positive control and significance of protein synthesis.
20. Write a note on vectors used in recombinant DNA technology.
21. Write short notes on genomic analysis.
22. Write about cell signalling and explain receptors for cell signals.

FACULTY OF PHARMACY
B. Pharmacy VIII - Semester (PCI) (Makeup) Examination, November 2024
Subject: Cosmetic Science (Elective-II)

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a note on cosmetics as Quasi and OTC drugs.
2. Write a note on hair growth cycle.
3. Write a note on preservatives used in cosmetics.
4. Write a note on hair oils in hair care cosmetics.
5. Write a note on turmeric in skin care.
6. Write a note on mouthwashes.
7. Write the role of clove in oral care.
8. Write a note determination of skin colour.
9. What are the reasons for dry skin and how to prevent it?
10. Write a note on reasons and prevention of hair fall.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write a note on following excipients with examples.
(i) Surfactants (ii) Humectants (iii) Rheology modifiers (iv) Emollients
12. Write a note on Sebometer, Corneometer, Tewameter (TEWL) in cosmetic evaluation.
13. Write the causes and prevention of Blemishes, Wrinkles, Acne, Prickly heat and Body Odour.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Classify cosmetics and cosmeceuticals with examples.
15. Write a note on basic structure of skin and formulation of Moisturizing cream.
16. Write the principle involved in formulation of cold cream and vanishing cream.
17. Write the formulation of toothpaste for bleeding gums and sensitive teeth.
18. What is SPF? Classify the sunscreen formulations with examples.
19. Write a note on conditioning shampoo, antidandruff shampoo in hair care.
20. Write a note on Henna and Amla in hair care. Write about soaps and syndet bars.
21. Write formulation and mechanism of action of Antiperspirants & deodorants.
22. Write about soaps and syndet bars.

FACULTY OF PHARMACY

B. Pharmacy VIII-Semester (PCI) (Make-up) Examination, November 2024

Subject: Experimental Pharmacology

Paper: (Pharmacological screening methods) (Elective-II)

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the methods used for preparation of drugs suspension?
2. What are the applications of mutant animals?
3. Explain the significance of sham negative group.
4. Write the different techniques for Euthanasia.
5. Explain the study designs involved in preclinical experiment.
6. Define a. Sedatives b. Hypnotics.
7. Write a short note on review of literature.
8. Give the examples of a. Mydriatics b. Miotics.
9. Mention the composition of IAEC.
10. Write the objectives of OECD guidelines.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe any three screening methods for parasympatholytic drugs.
12. Explain the various preclinical screening methods for anti-inflammatory drugs. Give any two in-vivo methods.
13. Describe any three preclinical screening methods of anti-cancer drugs.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the different methods for collection of blood in laboratory animals.
15. What is the significance of statistical analysis of student t test?
16. Mention the objectives of CPCSEA. Write the composition and responsibilities of IAEC.
17. Describe on in vivo screening model for anti-epileptic drugs.
18. Explain any one preclinical screening method for diuretic activity.
19. Explain students 't' tort and one way ANOVA.
20. Mention briefly about any two preclinical screening methods for anti-parkinsonism activity.
21. Explain one preclinical screening method for anti-dyslipidemic activity.
22. Enumerate any two preclinical screening methods for anti-asthmatic activity.

FACULTY OF PHARMACY

**B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024
Subject: Dietary Supplements and Nutraceuticals (Elective-II)**

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are probiotics and give examples.
2. Write the difference between natural and synthetic anti oxidants.
3. Give the occurrence and medical benefits of Lycopene.
4. Explain the importance of nutraceuticals in weight control.
5. Write about dietary fibres as functional food ingredients.
6. Give the source, chemical nature and uses of Oats and Rice bran.
7. Explain about enzymatic antioxidant defence.
8. Explain the role of melatonin and glutathione peroxidase.
9. Write about AGMARK on food safety.
10. What are tocopherols and give examples.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain in detail the effect of processing, storage and interactions of various environmental factors on the potential of neutraceuticals.
12. (a) Explain the role of Glutathione peroxidase and Superoxide dismutase.
(b) Write about public health nutritional benefits in a community.
13. Explain the role of Reactive Oxygen Species involvement in the treatment of disorders.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the role of anti-oxidants in the treatment of kidney damage.
15. Explain in detail about Carotenoids.
16. Explain the free radicals in the treatment of Diabetes mellitus.
17. Give the pharmacopeial specifications for complex carbohydrates.
18. Give the occurrence, chemical nature and uses of Gingko and Ginseng.
19. Explain the regulatory aspects of FSSAI on food safety.
20. Explain the role of free radicals with lipids.
21. Define flavonoids and give the source and medicinal benefits of any two flavonoids.
22. Write in detail about adulteration of foods?

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Make-up) Examination, November 2024

Subject: Advanced instrumentation techniques (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What is meant by ionisation in MS? List any 3 ionisation techniques used in MS.
2. Explain Base peak and molecular ion in MS.
3. What is meant by MALDI and FAB?
4. Define chemical shift. What is the effect of shielding and deshielding effect on chemical shift?
5. List the differences between single crystal and powder X-ray diffraction.
6. List the validation parameters as per ICH guidelines.
7. Write a note on hyphenated techniques. What are their advantages? Give suitable examples.
8. Define calibration and validation. What are the differences between calibration and validation?
9. Briefly explain the principle of DSC?
10. Give suitable applications of radioimmunoassay.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain the principle of Mass spectrometry. With a labelled diagram, explain MS instrumentation.
12. (a) List the calibration of UV- Visible spectrophotometer and explain any 2 parameters in detail.
(b) Explain the Principle of Solid phase Extraction.
13. Explain the principle and instrumentation of GC-MS/MS.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. With a neat labelled diagram explain the principle, instrumentation and application of Differential Thermal Analysis (DTA).
15. What is the role of mass analyser in MS. Explain any two in detail.
16. What are the differences between C13 and H1 NMR spectroscopy?
17. Describe the calibration of GC.
18. Explain the principle and procedure involved in liquid-liquid extraction.
19. How X-rays are generated? Derive Bragg's equation.
20. Explain any three ionisation methods in MS.
21. Explain the coupling constant, shielding and deshielding with suitable examples.
22. Briefly explain the process of radioimmunoassay.

FACULTY OF PHARMACY**B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024****Subject: Biostatistics & Research Methodology****Time: 3 Hours****Max. Marks: 75****PART-A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Define the terms Biostatistics & Research.
2. The absorbance values of aspirin solution obtained by UV- Visible spectrophotometer as 0.273, 0.275, 0.271, 0.274, 0.275, 0.279, 0.278 and 0.281. Calculate the mean absorbance value.
3. Mention applications of regression in Pharmacy.
4. Write the properties of normal distribution.
5. Give different non-parametric tests.
6. What is the need for Research?
7. List out MS EXCEL statistical functions.
8. Write features of SPSS.
9. Mention advantages of factorial design.
10. Give different phase of clinical trials.

PART-B**Note: Answer any two questions.****(2 x 10 = 20 Marks)**

11. Explain about report writing in research methodology.
12. Discuss in detail about one way ANOVA with one example.
13. Write the details of response surface methodology.

PART-C**Note: Answer any seven questions.****(7 x 5 = 35 Marks)**

14. Define sampling. Explain different sampling techniques.
15. The relative humidity in tablet production department of a pharmaceutical manufacturing unit is given below. Calculate the standard deviation in percent relative humidity.

DAY	1	2	3	4	5	6
X	60	62	65	69	75	65

16. Explain the theory of probability.
17. The following figure shows disease count from a region over a period of 1 year. Represent the data by a pie diagram.

DISEASE	COUNT
Jaundice	22
Tuberculosis	18
Typhoid	32
Malaria	15
Dengue	26

18. What is experimental design? Write its principles.
19. Write notes on MINITAB.
20. Define Plagiarism. Write the types of it.
21. Discuss student t-test in brief.
22. Explain 2^2 factorial design with an example.

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FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024

Subject: Social & Preventive Pharmacy

Time: 3 Hours

Max.Marks:75

PART-A

Note: Answer all the questions

(10 x 2 = 20 Marks)

1. Mention the social causes of disease.
2. Define health and hygiene.
3. Write a short note on types of respiratory tract infections.
4. What is the mode of transmission of the Ebola virus?
5. Write the functions of the pulse polio program.
6. What are the objectives and national program for the prevention and control of deafness?
7. Write about the social health program.
8. Write functions of WHO.
9. Write down the objectives of improvement in rural sanitation.
10. What is the importance of health education?

PART-B

Note: Answer any two questions

(2 x 10 = 20 Marks)

11. (a) Define malnutrition and write about its types and prevention.
(b) What are different avoidable habits from the health and hygiene point of view?
12. (a) What is SARS. Write its symptoms, prevention, and control.
(b) Elaborate community services with health promotion activities in school.
13. (a) Write in detail about the Integrated disease surveillance program.
(b) Explain the national tobacco control program.

PART-C

Note: Answer any seven questions

(7 x 5 = 35 Marks)

14. Explain the concept of prevention and control of the disease.
15. Explain the prevention and control of diabetes mellitus.
16. Write the mode of transmission, prevention, and control of cholera.
17. Explain national mental health program objectives, functioning, and outcomes.
18. Explain the objectives, functioning and outcomes of the national program for the control of blindness.
19. Explain the national malaria prevention program.
20. Explain in detail the national family welfare program.
21. Write a note on the objectives, functions and staffing pattern of PHC.
22. Define community health. Classify and explain the principles of community health services.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Quality control and standardization of herbals (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define Palisade Ratio.
2. Write any four natural pesticide and their uses.
3. What are the application of Gas Chromatography?
4. What is secondary processing of medicinal plants?
5. Write any two biological markers in standardization of herbal products.
6. Write any two identification tests for glycosides.
7. Lycopodium Spore Method – Formula.
8. Mention any four examples of herbal drug interactions.
9. What are weedicides? Mention two examples.
10. Test for teratogenicity.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe the guidelines on GACP for medicinal plants.
12. Explain the quality control of herbal drugs as per WHO guidelines.
13. Enumerate the regulatory requirement of herbal drugs.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the various herbal pharmacopoeias.
15. Write the GMP requirement for herbal medicine.
16. Explain the preparation of document for new drug application.
17. Discuss the protocol for clinical guidelines in herbal medicine.
18. Enumerate various aspects of GLP.
19. Write the applications of chromatography technique its standardization of herbal drugs.
20. Write briefly about stability studies of herbal medicinal products.
21. Describe the basic test for medicinal plant materials.
22. Write a note on research guidelines for evaluating safety and efficacy of herbal medicine.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024

Subject: Pharmacovigilance (Elective - I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What is a Good Pharmacovigilance Practice?
2. What is the significance of Vigimed and Vigiflow?
3. Define probabilistic method.
4. Explain adverse events following immunization.
5. Write a detailed note on ICD
6. Describe phase I of clinical trial.
7. Explain WHO scale.
8. Describe the Types of services provided by CROs.
9. Define the terms (a) Case Reports (b) Cohort studies
10. Define WHO drug dictionary.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain in detail on communication with regulatory agencies, business partners. Describe health care facilities and media.
12. Describe pharmacogenetic variations attributed to CYP450 isoenzymes inhibition and induction.
13. Briefly explain International Non-Proprietary Name (INN) for drugs.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Discuss on organization of WHO-DD.
15. Describe the classification and significance of adverse events following immunization programme.
16. Explain individual case safety reports.
17. Discuss on the history of ICD.
18. Write about drug safety evaluation in pediatrics.
19. Write a short note on types of vaccine failure.
20. Write about the Pharmacovigilance program of India.
21. Briefly describe safety evaluation at pre-clinical and clinical trial phase.
22. What is the importance of CIOMS in Pharmacovigilance?

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Pharmaceutical Regulatory Science (Elective - I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Discuss briefly about Purple Book
2. Define the terms (a) WHO (b) CDSCO (c) EMA
3. What is a generic product?
4. What is meant by 'double blind trial'?
5. Give a note on Investigational new drug.
6. What is Phase 3 clinical trial?
7. Define ASEAN common technical documents (ACTD).
8. Mention the different types of DMFs.
9. What are the functions of CDSCO?
10. What is good clinical practice

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write a detailed on the following.
(a) Timeline and types of IND.
(b) Institutional review board.
12. How to manage and monitor clinical trials.
13. Write about common Technical Document.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Compare the documentation requirements of ANDA and NDA submissions.
15. Discuss about various Stages of drug discovery
16. Describe general check list for 21CFR part 11.
17. What is the general procedure for export of pharmaceutical product?
18. Explain the GCP obligations of investigators and sponsors
19. Describe in detail new drug approval process along with its documentation requirements as per USFDA.
20. How innovator drug are different from generics drugs?
21. What is the constitution and purpose of Ethics Committee?
22. Explain the Orange Book features.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Pharmaceutical Marketing Management (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define Marketing and selling.
2. List factors influencing the choice of physician.
3. List the stages of product life cycle.
4. Classify pharmaceutical market.
5. What is consumer profiling?
6. What is retailing and mention its advantages.
7. Write the roles and responsibilities of distributors?
8. List the duties of professional sales representatives.
9. What is vertical marketing?
10. Define pricing and mention its objectives.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain various approaches of market research for analysing market.
12. Describe the different channels in distribution management and mention the conflicts to be considered while selecting them.
13. Explain different pricing methods and strategies.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the factors affecting industrial buying behaviour.
15. What is product portfolio analysis and its role in product positioning?
16. Write the roles of advertising and public relations in promotion of pharmaceutical products.
17. Explain the steps involved in personal selling.
18. Describe the role of journals and medical exhibition in product promotion.
19. Write the evaluation criteria and compensation planning for professional sales representatives.
20. Write the regulatory norms applicable to customer calls.
21. Describe the determinants for fixation of prices.
22. Write the functions and role of NPPA.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Computer-Aided Drug Design (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a note on serendipitous discovery of drugs.
2. Define the term lead optimization.
3. Differentiate between SAR and QSAR.
4. Write about Free-Wilson analysis.
5. What is virtual screening?
6. What is rigid docking?
7. Define the terms: Bioactive conformer & Force field.
8. What is global conformational minima?
9. Enlist the applications of bioinformatics tools in drug design.
10. Give examples for pharmaceutical databases.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What is 3D QSAR? Write about CoMFA and CoMSIA methods.
12. Describe the concept of pharmacophore-based virtual screening in drug design.
13. Define and classify bioisosteres. Explain its significance in drug design with suitable examples.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain about Hansch analysis with a model QSAR equation.
15. Highlight the significance of partition coefficient in QSAR analysis and write its determination.
16. Describe metabolism-based lead discovery with specific examples.
17. Explain the steps involved in molecular docking.
18. Explain drug-likeness screening along with the tools used for its determination.
19. List out various protein databases. Explain the significance of these databases in drug design with a specific example.
20. Discuss the significance of *in silico* ADME databases in drug design.
21. Discuss briefly about conformational analysis.
22. Explain various stages involved in molecular mechanics.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Paper: Cell and Molecular Biology (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all questions.

(10 x 2 = 20 Marks)

1. Write a brief note on functions of m-RNA?
2. Write the functions of cell membrane.
3. Differentiate between t-RNA and m-RNA
4. Write the significance of Lac – operon pathway.
5. Define Transgenics.
6. Define genetic code.
7. Enlist the functions of Okasaki fragments.
8. What are SSB proteins?
9. Enlist the properties of the cells.
10. What are spindle fibres?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe in detail about the enzymes involved in DNA replication.
12. Write in detail about cell signaling pathways and its misregulation.
13. What are chromosomes? Write a detailed account on discovery, structure, number and significance of chromosomes in prokaryotic and eukaryotic cells. Draw labelled diagrams wherever necessary.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the DNA replication mechanism in eukaryotes.
15. Explain in detail significance of protein synthesis.
16. Write an account on the types of RNA. Discuss their functions.
17. Describe the stages of mitosis.
18. What is Bacterial Transduction? Explain the process of Transduction in Bacteria.
19. What are the structural and regulatory genes? Explain genetic control of protein synthesis.
20. Discuss the role of the enzyme DNA ligase plays during DNA replication.
21. Describe the stages of prophase -1 of meiosis.
22. Construct a complete transcription unit with promoter and terminator on the basis
A T G C A T G C A T A C

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FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024

Subject: Cosmetic Science (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all questions.

(10 x 2 = 20 Marks)

1. Define Cosmetic and Cosmeceuticals.
2. What are the preservatives used in cosmetic products?
3. Write a note on face wash.
4. Write a note on mouth washes.
5. What are the uses of clove in oral care?
6. Write a note on Tewameter (TEWL).
7. Differentiate between soaps and syndet bars.
8. Write a note on hair combing properties.
9. Write a note on comedogenic and dermatitis.
10. What are the reasons for bad body odour.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Draw basic structure of skin and write functions of skin. Explain formulation of Moisturizing cream and Cold Cream as skin care products.
12. Write the role of herbs in cosmetics. Write the role of aloe, turmeric and neem in cosmetic formulation.
13. Write about blemishes, wrinkles, acne and prickly heat in skin problems.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write the classification of cosmetics and cosmeceuticals with examples.
15. Write the classification and applications of i) Surfactants ii) Rheology modifiers
16. Write formulation and mechanism of action of Antiperspirants & deodorants.
17. Write the formulation of toothpaste for bleeding gums and sensitive teeth.
18. Classify sunscreen formulations and explain SPF.
19. Write a note on evaluation of Shampoo and skin cream as per BSI.
20. Write the principles and applications of Sebumeter and Corneometer
21. Write a note on oily and dry skin. Write causes for dry skin.
22. Write the hair fall causes and dandruff.

FACULTY OF PHARMACY

B. Pharmacy VIII – Semester (PCI) (Main & Backlog) Examination, July 2024

**Subject: Experimental Pharmacology
(Pharmacological Screening Methods)(Elective-II)**

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are common laboratory animals?
2. Differentiate between sedative and hypnotic agents.
3. Write the composition of IAEC.
4. What is one way ANOVA?
5. Enlist various techniques of blood collection in common laboratory animals
6. Write about Mutant animals.
7. What are nootropics?
8. What is the importance of sham negative and positive control groups?
9. List out screening methods for drugs acting on eye.
10. Write about Euthanasia?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain various *in vivo*, *in vitro* methods to evaluate a compound for antidiabetic activity.
12. Describe in detail about regulations for laboratory animal care as per CPCSEA Guidelines.
13. Write in detail about the methods of screening for antihypertensives and anti arrhythmics.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on *in vivo* methods for screening antiepileptic drugs.
15. Explain the screening methods for skeletal muscle relaxants.
16. Describe various routes of drug administration in animals with advantages and disadvantages.
17. Write a brief note on screening methods of analgesic drugs.
18. Explain the applications of transgenic animals in pharmacological research.
19. Write any two preclinical screening methods for antidepressant activity.
20. Enumerate any two preclinical screening methods for local anaesthetics.
21. Explain the criteria of dose selection and calculations of dose for animals.
22. Explain the interpretation of results using Students-t test?

FACULTY OF PHARMACY

B. Pharmacy VIII – Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Dietary Supplements and Nutraceuticals (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all questions.

(10 x 2 = 20 Marks)

1. Write short notes on Reactive Oxygen Species.
2. Define flavonoids and polyphenolics.
3. Give the source, chemical nature and uses of Tea and coffee.
4. Explain the importance of synthetic anti-oxidants.
5. Write about GMPs on food safety.
6. Write about complex carbohydrates as functional food ingredients.
7. Give the occurrence and medical benefits of Lignans and Rutin.
8. What are phyto estrogens?
9. Write about production of free radicals in cells.
10. Write about storage potential of nutraceuticals.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What are various endogeneous antioxidants give its enzymatic and non enzymatic defence mechanism of action.
12. Explain various mechanisms of free radicals involved in Diabetes mellitus and renal failure.
13. Write the various components of dietary supplements and their applications. Add a note on deficiency of dietary supplements.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain in detail about Carotenoids.
15. Give the occurrence, chemical nature and uses of Gingko and Ginseng.
16. Explain the regulatory aspects of FSSAI on food safety.
17. Explain the role of free radicals with lipids.
18. Write in detail about adulteration of food.
19. Explain in detail about sulphides and xanthophylls.
20. Give the importance of proteins and vitamins as functional food.
21. Explain the free radicals theory of ageing.
22. Write about various pharmacopoeial specification of nutraceuticals.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main & Backlog) Examination, July 2024
Subject: Advanced instrumentation techniques (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the Molecular ions in MS?
2. List the different ionisation techniques in MS.
3. Explain Shielding and Deshielding in NMR.
4. Define chemical shift. List the factors affecting chemical shift
5. What is the internal standard in HPLC? Justify its selection.
6. What is the principle of Thermogravimetric Analysis (TGA)?
7. List the important steps in solid phase extraction.
8. Give suitable applications of radioimmunoassay.
9. List the parameters for the calibration of UV Visible spectrophotometer.
10. Define validation? List out various validation parameters.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain the principle of Mass spectrometry. With a labelled diagram, explain MS instrumentation.
12. Explain the Principle and instrumentation of RP-HPLC?
13. Explain the principle and applications of LC-MS/MS.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. With a neat labelled diagram explain the instrumentation and application of DTA.
15. Explain Fragmentation techniques in MS. Explain any two methods in detail.
16. Explain Time of flight and quadrupole mass analysers in MS.
17. What are the differences between C13 and H1 NMR spectroscopy?
18. Explain the origin of X-rays. Derive Bragg's equation
19. Explain the phenomena of spin – spin coupling with a suitable examples.
20. Explain the principle and procedure involved in liquid-liquid extraction.
21. What is the difference between calibration and validation? List the validation parameters as per ICH guidelines and explain any two.
22. Explain the principle, advantages and applications of RIA.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Subject: Biostatistics & Research Methodology

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Find the median of the disintegration times of tablets for a data set 1, 4, 8, 3, 5, 7, 2, 10 and 6.
2. Calculate the range for individual series-X: 120,170,240,100, 105, 205, 300, 160, 150, 180.
3. Define the term Probability.
4. What is meant by population?
5. Give different non-parametric tests.
6. What is the need for design of experiments?
7. Mention different types of graphs.
8. Write statistical features of EXCEL.
9. Mention advantages of factorial design.
10. Give different phase of clinical trials.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain about report writing in research methodology.
12. Write informative notes on (a) Plagiarism (b) Types of sampling.
13. What is SPSS? Write about its models.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Discuss about Karl Pearson's coefficient of correlation.
15. Find the standard deviation of incubation period of small pox in 9 patients where it was found to be 15,12,10,15,11,7,9,17 and 14.
16. What is normal distribution? Explain the properties with a suitable example.
17. Write short notes on ANOVA.
18. A quality control analyst finds that on the average the sample passes the test 4 times out of 5. If the sample is tested 4 times, what is the probability of
(a) Sample passing more than 2 times (b) At least 3 failures
19. Write notes on any one non-parametric test.
20. Discuss about statistical features of MINITAB.
21. Explain designing of a clinical trial.
22. Explain 2^2 factorial design with an example

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Subject: Advanced instrumentation techniques (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the important steps in MS?
2. List the different ionisation techniques in MS.
3. Explain Base peak and molecular ion in MS.
4. Define chemical shift. List the factors affecting chemical shift
5. What is the internal standard in NMR spectroscopy? Justify its selection.
6. What is the principle of TGA?
7. List the important steps in solid phase extraction.
8. Give suitable applications of radioimmunoassay.
9. List the parameters for the calibration of UV Visible spectrophotometer.
10. What is the difference between calibration and validation?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain the principle of Mass spectrometry. With a labelled diagram, explain MS instrumentation.
12. Explain HPLC calibration process.
13. Explain the principle of LC/MS/MS.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. With a neat labelled diagram explain the instrumentation and application of DTA.
15. Classify the ionisation techniques in MS. Explain any two methods in detail.
16. Explain Time of flight and quadrupole mass analysers in MS.
17. What are the differences between C^{13} and H^1 NMR spectroscopy?
18. Explain the origin of X-rays. Derive Bragg's equation
19. Explain the phenomena of spin – spin coupling with a suitable example.
20. Explain the principle and procedure involved in liquid-liquid extraction.
21. Write a note on hyphenated techniques. Give suitable examples. What are their advantages? Add a note on interfaces.
22. Explain the principle advantages and applications of RIA.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Paper: Cell and Molecular Biology (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Differentiate Prokaryotic cell versus Eukaryotic cell.
2. Write a note on power house of the cell.
3. Differentiate between DNA and RNA.
4. Write the components of Lac-operon.
5. Define chromatin.
6. What is osmosis and diffusion?
7. Differentiate SER and RER.
8. Discuss the role of DNA ligase during DNA replication.
9. Mention different sub-stages of prophase -2 of meiotic cell division.
10. Differentiate microtubules and microfilaments.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What is Bacterial Transduction? Explain the process of Transduction in Bacteria.
12. What are the structural and regulatory genes? Explain genetic control of protein synthesis.
13. Explain about giant chromosomes with their structure, functions of nucleus and its components.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write an account on the types of RNA. Discuss their functions.
15. Write in detail about cell signaling pathways and its misregulation.
16. Explain the role of DNA -dependent RNA polymerase in transcription.
17. Distinguish between mitosis and meiosis with appropriate diagrams.
18. Write a short note on classification of cell types.
19. Describe the Watson and Crick model of DNA structure with labelled diagram.
20. Explain in detail functioning of protein kinases.
21. Write in detail about definition, theory, basics and applications of cell and molecular Biology.
22. Explain Chargaff's law.

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Code No: F-7203/PCI

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Subject: Cosmetic Science (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a note on preservatives used in cosmetics
2. Explain cosmetics as Quasi and OTC drugs.
3. What are emollients?
4. Write a note on moisturizing cream.
5. Explain sun protection formulations.
6. What are mouthwashes?
7. Write the role of neem in oral care.
8. What is the difference between soap and syndet bar.
9. What are the reasons and prevention of dry skin.
10. Write a note on reasons and prevention of body odor.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write a brief note on following excipients with examples a) Surfactants b) Humectants
c) Rheology modifiers d) Emollients e) Preservatives
12. Write the causes and prevention of blemishes, wrinkles, acne and hair fall.
13. Explain Sebumeter, Corneometer, Tewameter (TEWL) in cosmetic evaluation.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Classify cosmetics and cosmeceuticals with examples.
15. Write a note on basic structure of hair and hair growth cycle.
16. Write the principle involved in formulation of cold cream and vanishing cream.
17. Write formulation and mechanism of action of Antiperspirants & deodorants.
18. Write a note on conditioning shampoo, antidandruff shampoo in hair care.
19. Write the formulation of toothpaste for bleeding gums and sensitive teeth.
20. Write a note on henna and amla in hair care.
21. Write the causes and prevention of blemishes, wrinkles and acne.
22. Discuss the role of importance of Aloe and turmeric in Herbal cosmetics.

FACULTY OF PHARMACY

B. Pharmacy VIII – Semester (PCI) (Backlog) Examination, March 2024

**Subject: Experimental Pharmacology
(Pharmacological Screening Methods)(Elective-II)**

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. List a few laboratory animals and their use in research.
2. What are transgenic animals?
3. List the common routes of drug administration in animals.
4. What are coagulants and anticoagulants?
5. List out the drugs acting on the eye. Name the models.
6. What is Euthanasia and list the techniques of euthanasia.
7. List various agents which cause inflammation.
8. How is dose selected in preclinical screening methods?
9. What is Students-t test and where is it used?
10. What is preclinical data analysis?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe the screening models for evaluation of a compound for Antihypertensive activity.
12. Discuss the *in vitro* and *in vivo* techniques for screening of anticancer agents.
13. Describe in detail about regulations for laboratory animal care as per CPCSEA guidelines.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a brief note on screening methods of antiinflammatory drugs.
15. What is Research? Mention the significance of selection of research topic.
16. Explain the screening methods for diuretics.
17. Describe the techniques for collection of blood in the animals?
18. Write about One-way ANOVA and its importance in preclinical studies.
19. Write a note on methods involved in the screening of nootropics.
20. Enumerate any two preclinical screening methods for local anaesthetics.
21. What are antiasthmatic agents? Discuss the methods involved in their screening.
22. Write the preclinical screening methods of sympathomimetics.

FACULTY OF PHARMACY

B. Pharmacy VIII – Semester (PCI) (Backlog) Examination, March 2024

Subject: Dietary Supplements and Nutraceuticals (Elective-II)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write the difference between dietary supplements and nutraceuticals.
2. Write about polyphenols and tocopherols.
3. Give the occurrence and medical benefits of Lycopene.
4. Write about dietary fibres as functional food ingredients.
5. Give the source, chemical nature and uses of Oats and Rice bran.
6. Explain about enzymatic antioxidant defence.
7. What are phytosterols give its uses?
8. Write about AGMARK on food safety.
9. Write the benefits of Public health nutrition.
10. Name the marker compounds of spirulina and ginko.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain in detail the effect of processing, storage and interactions of various environmental factors on the potential of dietary supplements.
12. (a) Explain the role of antioxidants in the treatment of Cancer.
(b) Write about various nutritional benefits in a community.
13. (a) Classify various nutraceuticals with examples.
(a) Explain the role of Reactive Oxygen Species involvement in the treatment of disorders.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the role of anti-oxidants in the treatment of kidney damage.
15. Give the pharmacopeial specification for complex carbohydrates.
16. Explain the regulatory aspects of FSSAI on food safety.
17. Explain the role of melatonin, Vitamin E and Catalase.
18. Define flavonoids and give the source and medicinal benefits of any two flavonoids.
19. Write in detail about adulteration of foods.
20. Explain the role of various endogenous anti-oxidants.
21. Give the importance of proteins and vitamins as functional foods.
22. Give the occurrence, chemical nature and uses of Garlic and Flax seeds.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024
Subject: Pharmaceutical Marketing Management (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Differentiate between Marketing and selling.
2. Classify pharmaceutical products.
3. What is product branding?
4. What are the free samples and norms applicable to them,
5. What is significance of direct mail in product promotion?
6. Write the quantitative and qualitative aspects of pharmaceutical market.
7. Name different channels of distribution.
8. List factors influencing the choice of retail pharmacist.
9. What is product line and give example.
10. Write the merits and demerits of wholesale distribution channel.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain stages in product life cycle and mention its role in product positioning and new product decisions.
12. Describe the selection, training and future prospects of professional sales representatives.
13. Compare and contrast between rural, industrial and global marketing.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the factors affecting consumer buying behaviour.
15. Describe salient features applicable for product packaging and labelling.
16. Explain the demographic descriptions and socio-psychological characteristics of consumers.
17. Write the motivational factors and prescribing habits of physician.
18. Write the promotional mix factors to be considered for fixing the promotional budget.
19. Explain online promotional techniques relevant to OTC products.
20. Differentiate between vertical and horizontal marketing.
21. Write the challenges of price management in pharmaceutical marketing.
22. Write an overview on DPCO and its functions.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024
Subject: Pharmaceutical Regulatory Science (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What are the functions of US regulatory authority?
2. What are non-clinical studies?
3. Write the difference between brand and generic products.
4. Describe the modules in ACTD.
5. Mention the general list of CFR.
6. Write a note on purple book.
7. Define a. eCTD b. CFR.
8. List out the items in module III in ANDA.
9. Explain the exclusion criteria for clinical trials.
10. Define ICF.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Discuss different stages of preclinical studies.
12. Write the process for export of pharmaceutical products.
13. Explain in detail on DMF system in India.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Differentiate CTD and eCTD.
15. Write a note on submission of DMF.
16. Explain the protocol of clinical trials.
17. What are the stages of drug discovery process?
18. Write the salient features of pharmacovigilance.
19. Discuss code of federal regulation.
20. Explain the objectives of regulatory affairs department in pharma industry.
21. Explain the different modules of CTD in detail.
22. Write the steps involved in changing an approved NDA /ANDA.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Subject: Pharmacovigilance (Elective - I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Explain Development Safety Update Report(DSUR)
2. What are the concepts of DDD?
3. Define Data mining
4. Give the purpose of MedDRA.
5. Enlist any two source of ADR reporting.
6. Define pharmacogenetics and pharmacogenomics.
7. What is post approval phase?
8. What is Vaccine pharmacovigilance.
9. What are responsibilities of CROs?
10. Describe CIOMS working group.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain individual reporting and spontaneous reporting.
Enlist the steps recommended by WHO for establishing a PV centre.
12. Explain about Good clinical practices in pharmacovigilance.
13. Write a detailed note on ICD.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Describe in detail the organisational structure & functions of CDSCO in India.
15. Write the differences in Indian and global pharmacovigilance requirements.
16. Describe drug safety in pregnancy and lactation.
17. Explain in detail the organization and objectives of ICH
18. Write about effective communication in drug safety crisis management
19. Explain the following a. case control study b. cohort study.
20. List out the adverse events following immunization.
21. Discuss the establishment of national pharmacovigilance program.
22. Write about anatomical and therapeutic classification of drugs.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024
Subject: Quality control and standardization of herbals (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define Stomata.
2. What is the difference between TLC & HPTLC?
3. Write the names of four markers.
4. What is Extractive value and its significance?
5. Define SOP.
6. What is AYUSH?
7. Write four examples of herbal drug interactions.
8. What is the significance of ICH?
9. Define term herbal medicine & crude drug.
10. What is Quantitative microscopy?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Describe WHO guidelines for quality control of herbal drugs.
12. Explain the infra structural requirements under GMP for herbal industry.
13. Describe the preparation of documents for new drug application and export registration.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. What is GAP? Explain the various parameter of GAP.
15. Explain the importance of HPTLC method in the standardization of herbal drugs.
16. Write a note on regulatory requirement for herbal drugs.
17. Describe the guidelines on safety and efficacy of herbal medicine.
18. Explain WHO guidelines on current good manufacturing practices for herbal medicine.
19. Discuss about the assessment of Genotoxicity of herbal preparations.
20. Define and classify markers with examples.
21. Describe the basic test for medicinal plant material.
22. Explain ICH guidelines for the quality control of herbal drugs.

FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024

Subject: Computer Aided Drug Design (Elective-I)

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. What is random screening? Give an example.
2. What are the advantages of virtual screening over conventional techniques?
3. Explain the significance of the partition coefficient.
4. Define the terms: Molecular mechanics and quantum mechanics.
5. What is 3D QSAR?
6. Define and differentiate the following terms: Lead and Drug.
7. Write the significance of PDB in drug design.
8. Describe De *novo* drug design.
9. What are pharmaceutical databases? Give examples.
10. What is global conformational minima?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What is QSAR analysis? List out various physicochemical parameters and explain about electronic parameters. Provide a model QSAR equation.
12. Explain various stages involved in drug discovery and development.
13. Describe the significance of various bioinformatics tools used in drug design with suitable examples.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain Hansch analysis with its advantages & disadvantages.
15. What is molecular docking? Explain its significance in drug design.
16. Write about various energy minimization methods.
17. Explain chemical databases with suitable examples. Give their importance in drug design.
18. Write a note on serendipitous discovery of drugs.
19. Discuss the methodology involved in CoMSIA.
20. Explain drug-likeness screening. Write various tools used for the same.
21. Define and differentiate various types of bioisosteres with suitable examples.
22. Explain the role of quantum mechanics in drug design.

FACULTY OF PHARMACY
B. Pharmacy VIII - Semester (PCI) (Backlog) Examination, March 2024
Subject: Social and Preventive Pharmacy

Time: 3 Hours

Max.Marks:75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a note on symptoms of vitamin deficiencies?
2. Define balanced diet.
3. What is the difference between drug abuse and drug addiction?
4. Explain the social causes of the disease?
5. Explain different types of diabetes mellitus?
6. Write the various objectives of HIV and AIDS control programme?
7. Write a note on Malaria control strategies?
8. What are the objectives of integration with National urban Health Mission (NUHM)?
9. Write a note on school health promotion program?
10. Write a note on the public health care system in India?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. (a) Explain about Malnutrition and various methods of its prevention.
(b) Explain general principles of prevention and control of Malaria.
12. (a) Explain the objectives, functioning and outcomes of national mental health programme.
(b) Write a note on role of WHO in Indian National programmes.
13. (a) Discuss in detail about National family welfare programme.
(b) Write a note on functions of PHC.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write the various risk factors and diagnosis of Cancer.
15. Explain signs, symptoms, transmission and treatment of SARS.
16. Define health and explain different dimensions of good health.
17. Write a note on objectives and strategies for Leprosy elimination in India.
18. Write a note on pulse polio program.
19. Write a note on national programme for health care of elderly.
20. What are the aims and achievements of National Tobacco Program?
21. Explain about the different levels of Evaluation of public health.
22. How can you improve sanitization in rural area, explain different schemes and programs.
