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IV/IV B.PHARMACY (REGULAR) DEGREE EXAMINATIONS, JUNE-2026**EIGHTH SEMESTER****BIOSTATISTICS AND RESEARCH METHODOLOGY**

Time: 3 Hours

Maximum : 75 Marks

SECTION - A**5 x 10 = 50M****Answer any FIVE of the following Questions.**

01. a) Explain the applications of method of least squares and fitting the lines (6).
b) Discuss the measures of dispersion [4M]
02. a) Describe different types of sampling with examples [7M]
b) What is a Null hypothesis? Give example [3M]
03. a) Elaborate the calculation and application of correlation coefficients (5)
b) Enlight various types of probability distributions with figures and properties (5)
04. a) What is the importance of Design of Experiments in research (4)
b) What is Plagiarism report? How do you check the similarity index? (6)
05. Elaborate the methods of conducting of different phases of clinical trials (10)
06. Write about the procedure involved in a) Kruskal Wallis test b) Wilcoxon Rank Sum test with examples (5+5)
07. What are Cohort studies, Observational and Experimental studies? Elaborate it. (10)

SECTION - B**5 x 5 = 25M****Answer any FIVE of the following Questions.**

08. Explain the needs of research.
09. Describe different Graphs with diagrams and importance in pharmaceutical research.
10. Write the steps involved in application of unpaired and paired t-test with their differences.
11. What is the difference between One way and Two way? Write a model ANOVA table for both.
12. Explain Online Statistical Softwares used in Industrial and clinical trial approach.
13. Write a note on Factorial design with an example.
14. Discuss the applications of Optimization techniques with examples

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IV/IV B.PHARMACY (REGULAR) DEGREE EXAMINATIONS, JUNE-2026

EIGHTH SEMESTER

SOCIAL AND PREVENTIVE PHARMACY

Time: 3 Hours

Maximum : 75 Marks

SECTION - A

5 x 10 = 50M

Answer any FIVE of the following Questions.

01. Explain the concepts of prevention and control of diseases.
02. Discuss briefly significance of health promotion & education in school.
03. What are indicators of health? Explain different indicators and their use.
04. Discuss the objectives, strategy, components of the National Programme for Control of Blindness and Visual Impairment.
05. Discuss the diagnosis, categorization and treatment of tuberculosis done according to Revised National TB Control Program (RNTCP)
06. Explain the salient features of the National Programme for the health care of elderly.
07. Write a note on diagnosis, symptoms, prevention and treatment of diabetes mellitus and hypertension

SECTION - B

5 x 5 = 25M

Answer any FIVE of the following Questions.

08. Explain the importance of personal hygiene and health care.
09. Discuss the causative agents, mode of transmission and treatment of influenza and cholera.
10. Discuss the impact of urbanization on health and disease.
11. Define sewage. Enlist the various methods of disposal of sewage in unsewered areas.
12. Discuss about vertical transmission of HIV infection.
13. Explain Malnutrition and its Prevention.
14. Write the functions of Primary Health Centre (PHC).

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IV/IV B.PHARMACY (REGULAR) DEGREE EXAMINATIONS, JUNE – 2026**EIGHTH SEMESTER****COSMETIC SCIENCE**

Time: 3 Hours

Maximum : 75 Marks

SECTION – A**5 x 10 = 50 M****Answer any FIVE of the following Questions.**

01. Describe the basic structure and functions of hair. Write a note on anti-dandruff shampoo.
02. Write the principle involved in sebumeter and corneometer.
03. Discuss the active substances used in antiperspirants and its mechanism of action.
04. Explain in detail about cosmetic excipients and their classification and applications.
05. Describe briefly about cosmetic problems associated with skin.
06. Discuss in detail the formulation of cold cream and Vanishing cream.
07. Define cosmetics and cosmeceuticals. Explain cosmetics as per Indian and EU regulations.

SECTION – B**5 x 5 = 25 M****Answer any FIVE of the following Questions.**

08. What is oily and dry skin and enlist the causes to dry skin.
09. Outline the basic structure and functions of skin.
10. Write a note on analytical methods for shampoo.
11. Add a note on classification and applications of cosmetic excipients.
12. Write the role of amla and turmeric in skin care.
13. Write a note on soaps and Syndet bars.
14. Discuss briefly formulation of para-phenylene diamine based hair dye.

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IV/IV B.PHARMACY (REGULAR) DEGREE EXAMINATIONS, JUNE – 2026**EIGHTH SEMESTER****ADVANCED INSTRUMENTATION TECHNIQUES**

Time: 3 Hours

Maximum : 75 Marks

SECTION – A**5 x 10 = 50 M****Answer any FIVE of the following Questions.**

01. Discuss the instrumentation of NMR Spectroscopy.
02. Describe the Analyzers used in Mass Spectrometry.
03. Write a note on principle and instrumentation of Thermo gravimetric analysis.
04. Discuss the calibration of Gas Chromatography and Fluorimeter.
05. Define validation and explain any four validation parameters as per ICH guidelines.
06. Explain principle and procedure involved in Liquid – Liquid extraction.
07. Give an account on LC-MS/MS.

SECTION – B**5 x 5 = 25 M****Answer any FIVE of the following Questions.**

08. Write a short note on factors affecting chemical shift.
09. Explain the principle and applications of mass spectrometry.
10. Briefly explain the calibration procedure of UV-Visible spectrophotometer.
11. Enumerate the limitations and applications of Radio immunoassay.
12. Write a short note on principle and applications of HPTLC-MS.
13. Describe Rotating crystal Technique in X-ray Diffraction.
14. Briefly outline the principle and applications of Differential thermal analysis.