

B.Sc. Semester - 2 (CBCS) Examination
March/April - 2024 (As Per Syllabus Year-2016)
FORENSIC SCIENCE (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que.1(A) Answer in short. (04)

- (1) What is Spectrum?
- (2) Name the types of waves.
- (3) Define: Frequency.
- (4) What does a spectrum tells?

Que.1(B) Answer any one in brief. (03)

- (1) Explain The principle of spectroscopy.
- (2) What are Electromagnetic waves & write its property.

Que.1(C) Answer any one in detail. (07)

- (1) Write a note on Quantum Number.
- (2) Explain the term: Scattering; Interference; Diffraction; Dispersion; & Polarization.

Que.2(A) Answer in short. (04)

- (1) X- Rays were discovered by _____.
- (2) Write the basic requirements to produce X-rays.
- (3) In X-rays production the target is placed at an angle of _____.
- (4) Write the full form of WDS.

Que.2(B) Answer any one in brief. (03)

- (1) Explain X-ray techniques and methods in brief.
- (2) Write the production of X-rays.

Que.2(C) Answer any one in detail. (07)

- (1) Explain the theory of X-rays diffraction and Bragg's law.
- (2) Write a note on Instrumentation of X-rays.

Que.3(A) Answer in short. (04)

- (1) What is the full form of LASER.
- (2) Glass is UV active. [True OR False]
- (3) Write the formula for Beer's Law.
- (4) Name any two sources for I.R spectroscopy.

- Que.3(B) Answer any one in brief. (03)
- (1) Explain the principle of U.V Spectroscopy in brief.
 - (2) Write a note on “Thermal Transducer” the detector of IR.
- Que.3(C) Answer any one in detail. (07)
- (1) Write a note on Instrumentation of U.V Spectroscopy.
 - (2) Explain Absorption & Intensity shift in U.V Spectroscopy.
- Que.4(A) Answer in short. (04)
- (1) What is Buffer solution?
 - (2) The term pH is widely used in which field?
 - (3) Write formula for RCF.
 - (4) Name any two types of Centrifuges.
- Que.4(B) Answer any one in brief. (03)
- (1) Explain Rate-zonal centrifugation.
 - (2) What is Buffer capacity & write the application of buffer solution.
- Que.4(C) Answer any one in detail. (07)
- (1) Write a note on pH meter.
 - (2) Draw the difference between the types of centrifuges.
- Que.5(A) Answer in short. (04)
- (1) The monomers of Nucleotide in Nucleic acid are linked together by _____ bond.
 - (2) What is Nucleoside?
 - (3) Who gave the double helix structure of DNA.
 - (4) Carbohydrates are classified according to _____.
- Que.5(B) Answer any one in brief. (03)
- (1) Explain types of lipids.
 - (2) Explain the types of protein based on number of Amino acid.
- Que.5(C) Answer any one in detail. (07)
- (1) Write a brief note on DNA.
 - (2) Explain the classification of carbohydrates.
