647510 **BSC2FscC201x** **Seat No :_____**

B.Sc. Semester - 2 (*CBCS*) Examination
March/April – 2024 (As Per Syllabus Year-2018)
FORENSIC SCIENCE (CORE)

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

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

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.

****