

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov - 2022 [NEW COURSE]
Forensic Science-FS301 (Core)

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

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

-
- Q-1 (A) Answer in short:- (04)
1. What is known as Finger-Print region of IR spectrum?
 2. Asymmetrical molecule are IR active. [True OR False]
 3. Name the source of radiation for IR.
 4. Define: Polarized Molecule.
- Q-1 (B) Answer any one in brief:- (03)
1. Write the difference between IR spectra & Raman spectra.
 2. Explain the function of monochromator in IR spectrometer.
- Q-1 (C) Answer any one in detail:- (07)
1. Define Molecular Vibration & explain types of molecular vibration.
 2. Write a brief note on FTIR.
- Q-2 (A) Answer in short:- (04)
1. Write the scientific name of Pea plant.
 2. Name the nitrogenous base pair present in DNA.
 3. _____ enzyme is used to break hydrogen bond between two polynucleotide chains.
 4. What is phenotypic ratio ?
- Q-2 (B) Answer any one in brief:- (03)
1. Explain the Laws of Mendel.
 2. Write the function of Chromosomes.
- Q-2 (C) Answer any one in detail:- (07)
1. Write a note on process of DNA replication & protein synthesis.
 2. Write a brief note on Mendel's experiment.
- Q-3 (A) Answer in short:- (04)
1. T-cell are responsible for _____ immunity.
 2. Innate immunity is antigen specific. [True OR False]
 3. Heavy chain and light chain are held together by which bonds ?
 4. Define: Serological reaction.
- Q-3 (B) Answer any one in brief:- (03)
1. Elaborate the term Immunoglobulin.
 2. Explain the unique feature of adaptive immunity.
- Q-3 (C) Answer any one in detail:- (07)
1. Write a note on barrier related to innate immunity.
 2. Draw & explain the molecular structure of immunoglobulin.
- Q-4 (A) Answer in short:- (04)
1. Write the purpose of Chromatography.
 2. Name any two adsorbents used in TLC.
 3. What is the function of electrophoresis buffer in electrophoresis system.
 4. What is the mobile phase for gas-solid chromatography.

- Q-4 (B) Answer any one in brief:- (03)
1. Explain: PAGE (in terms of electrophoresis).
 2. Explain: 'The Separation Column for Gas Chromatography'.
- Q-4 (C) Answer any one in detail:- (07)
1. Write a note on TLC.
 2. Explain different types of detector for GC.
- Q-5 (A) Answer in short:- (04)
1. Name the types of medulla found in hair.
 2. Write the names of methods used for scale casting of hair.
 3. Define: Manufactured Fiber.
 4. Name the phylum of diatom.
- Q-5 (B) Answer any one in brief:- (03)
1. Draw & label the diagram of diatom.
 2. Draw the classifications of fibers.
- Q-5 (C) Answer any one in detail:- (07)
1. Write a note on body fluid: Saliva.
 2. (i.) Write the function of Hair.
(ii.) Make the difference between Human hair & Animal hair.
