

B.Sc.(FS) Semester - 3 (CBCS) Examination
Nov/Dec. -2021 (OLD COURSE)
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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Q-1 Give the answer of following question. (14)

- (A) Answer the following question very shortly (04)
- (1) Give the degree of freedom for H₂O molecule?
 - (2) Define Stock lines?
 - (3) Give the range of middle IR region.
 - (4) Full form of CCD?
- (B) Answer the following question in brief (Any one) (03)
- (1) Write the classification of molecular spectra?
 - (2) Draw a labeled diagram of FTIR and explains how it works?
- (C) Answer the following question in detail (Any one) (07)
- (1) Instrumentation of Raman spectroscopy with its application?
 - (2) Write about degree of freedom and explain the classification of Stretching & bending vibration.

Q-2 Give the answer of following question. (14)

- (A) Answer the following question very shortly (04)
- (1) Nucleoside contains _____
 - (2) Give the major types of RNA.
 - (3) Give the phenotypes of Di-hybrid experiment?
 - (4) The term Genetics was first coined by _____.
- (B) Answer the following question in brief (Any one) (03)
- (1) Write a short note on types of chromosomes?
 - (2) Explain nitrogen base, its type and draw the structure of Pyrimidines base?
- (C) Answer the following question in detail (Any one) (07)
- (1) Explain DNA transcription process?
 - (2) Explain DNA translation?

Q-3 Give the answer of following question. (14)

- (A) Answer the following question very shortly (04)
- (1) _____ is known as third line of defence?
 - (2) Definition of Hinge region ?
 - (3) Name the immunoglobulin's that has a monomeric structure?
 - (4) Name the binding site of antigen and antibody?
- (B) Answer the following question in brief (Any one) (03)
- (1) Write a note on Natural acquired active immunity?
 - (2) Write a note on innate and acquired immunity?
- (C) Answer the following question in detail. (Any one) (07)
- (1) Write a note on Molecular structure of Ig G.
 - (2) Explain briefly antigen-antibody reaction.

- Q-4 Give the answer of following question. (14)**
- (A) Answer the following question very shortly (04)
- (1) Give the types of paper electrophoresis?
 - (2) What is Isocratic column ?
 - (3) Which binder are used in Chromatography in stationary phase ?
 - (4) Give the full form of HPLC.
- (B) Answer the following question in brief (Any one) (03)
- (1) Write a short note on factors affecting electrophoresis?
 - (2) Describe Flame Ionization Detector?
- (C) Answer the following question in detail. (Any one) (07)
- (1) Explain instrumentation of gas chromatography
 - (2) Write a short note on column chromatography?
- Q-5 Give the answer of following question. (14)**
- (A) Answer the following question very shortly (04)
- (1) Write the name's for the basic scale pattern found in hair.
 - (2) Name the instrument used to measure the strength of rope?
 - (3) Diatom deposits are often accompanied by _____?
 - (4) Write the composition of urine?
- (B) Answer the following question in brief (Any one) (03)
- (1) Write the forensic significance, method & examination of Diatoms?
 - (2) Draw the classification of fiber?
- (C) Answer the following question in detail. (Any one) (07)
- (1) What is hair ? Write the Morphology of hair with its function?
 - (2) Write a note on body fluid : Saliva.
