

B.Sc.(FS) Semester - 3 (CBCS) Examination
Oct/Nov - 2023 [NEW 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(A) Answer the following question very shortly. (04)
1. What is the range of IR fingerprint region?
 2. MCT stands for _____.
 3. Name the detector used in FTIR.
 4. For stock line ΔV is _____.
- Q.1(B) Answer the following question in brief. (any one) (03)
1. What is Raman scattering? Define stock line & anti stock line.
 2. Describe the detector of IR spectroscopy.
- Q.1(C) Answer the following question in detail. (any one) (07)
1. Describe FTIR spectroscopy with labeled diagram.
 2. Explain theory of IR spectroscopy. Write about degree of freedom for liner and non-liner molecules?
- Q.2(A) Answer the following question very shortly. (04)
1. What is amount of nitrogen base as per governed by Chargaff's rule?
 2. Chromosome contains _____.
 3. Give the major types of RNA?
 4. The term genetics was first coined by _____.
- Q.2(B) Answer the following question in brief. (any one) (03)
1. Write note on RNA.
 2. Explain nitrogen base, its types and draw the structure of pyrimidinesbase?
- Q.2(C) Answer the following question in detail. (any one) (07)
1. Describe Mendel's law.
 2. Explain DNA translation.
- Q.3(A) Answer the following question very shortly. (04)
1. What is antigen?
 2. Define immune system.
 3. Write the name of cell that involves in production of antibodies?
 4. _____ is known as third line of defense.
- Q.3(B) Answer the following question in brief. (any one) (03)
1. Explain the unique feature about adaptive immunity.
 2. Write a note on natural acquired immunity.
- Q.3(C) Answer the following question in detail. (any one) (07)
1. Explain briefly about innate immunity.
 2. Explain antigen antibody reaction.
- Q.4(A) Answer the following question very shortly. (04)
1. Paper chromatography was first developed by _____.
 2. What is the equation R_f value?
 3. The length to the diameter ratio of the column is ?
 4. PAGE stand for _____.

- Q.4(B) Answer the following question in brief. (any one) (03)
1. Describe about the column of gas chromatography.
 2. Write short note on factor affecting electrophoresis.
- Q.4(C) Answer the following question in detail. (any one) (07)
1. Describe HPLC instrumentation with labeled diagram.
 2. Describe gel electrophoresis.
- Q.5(A) Answer the following question very shortly. (04)
1. Cell walls of diatoms are made of _____.
 2. Write an excreted body fluid example.
 3. Name the instrument used to measure the strength of rope?
 4. Write a name of scale pattern found of hair?
- Q.5(B) Answer the following question in brief. (any one) (03)
1. Write a difference between animal and human hair?
 2. Write the test of urine.
- Q.5(C) Answer the following question in detail. (any one) (07)
1. Write a note on body fluid: saliva.
 2. Write a short note on.
 - (A) What is diatom?
 - (B) Draw the labeled diagram of diatoms and its function?
