

**B.Sc. Semester - 3 (CBCS) Examination**  
**December. -2020 [NEW COURSE]**  
**Forensic Science-FS301 (Core)**

**Time: 1:30 Hours****Marks: 42****Instructions:**

1. Figure to the right indicate marks.
  2. There are five questions in the question paper.
  3. Answer any three of the following questions.
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**Q – 1 Give the answer of following questions. (14)**

**(A) Answer the following question very shortly (04)**

- (1) What is the wavelength range of vibration region in IR spectrum?
- (2) What are the lines on the sides of Rayleigh Lines called?
- (3) What is used instead of monochromator in FTIR instrument?
- (4) What was used as a source in the first RAMAN instrument?

**(B) Shortly answer any one question (03)**

- (1) Mention parts of RAMAN instrument and explain any one detector in brief.
- (2) Explain stretching vibrations.

**(C) Answer any one question in detail (07)**

- (1) Explain stretching vibrations with appropriate examples.
- (2) Write a note on sampling process for IR spectroscopy.

**Q – 2 Give the answer of following questions. (14)**

**(A) Answer the following question very shortly (04)**

- (1) In which chromosome is the centromere located in the centre?
- (2) What are the methods used to determine phenotypes and genotypes?
- (3) Which law of Mendel was based on dihybrid experiment?
- (4) Mention names of core histones.

**(B) Shortly answer any one question (03)**

- (1) Mention the three laws of Mendelian Genetics.
- (2) Define heredity, variation and gene.

**(C) Answer any one question in detail (07)**

- (1) Explain the laws of Mendel in brief.
- (2) Write a note on DNA Replication.

**Q – 3 Give the answer of following questions. (14)**

**(A) Answer the following question very shortly (04)**

- (1) Who is the father of immunology?
- (2) Mention types of immunology.
- (3) What are the physical barriers of external defense system?
- (4) What is leucocytosis?

**(B) Shortly answer any one question (03)**

- (1) Write any three differences between Innate immunity and Acquired immunity.
- (2) Write a brief note on hypersensitivity.

**(C) Answer any one question in detail (07)**

- (1) Explain the action of antibodies against antigens in detail
- (2) Write a detailed note on Autoimmune Disease.

**Q – 4 Give the answer of following questions. (14)**

**(A) Answer the following question very shortly (04)**

- (1) Give the full forms of SDS and PAGE.
- (2) What is the principle of TLC?
- (3) Mention types of GC.
- (4) What type of technique is electrophoresis?

**(B) Shortly answer any one question (03)**

- (1) Write a note one types of paper chromatography.
- (2) What are the applications of electrophoresis?

**(C) Answer any one question in detail (07)**

- (1) Write a note on HPLC.
- (2) Write a note on SDS-PAGE.

**Q – 5 Give the answer of following questions. (14)**

**(A) Answer the following question very shortly (04)**

- (1) Mention the parts of cross section of hair.
- (2) Mention types of natural fibers.
- (3) What is sebum?
- (4) What are frustules?

**(B) Shortly answer any one question (03)**

- (1) Write a brief note on diatoms.
- (2) Explain types of fibers with examples.

**(C) Answer any one question in detail (07)**

- (1) Write the presumptive tests for analysis of blood.
- (2) Write a note on analysis of fibers.

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