647510 **BSc3FscC0301** **Seat No :_____**

B.Sc. Semester - 3 (*CBCS*) Examination

Oct/Nov. -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 Give the answer of following questions. (14)

(A) Answer the following question very shortly. (any four) (04)

(1) What is the Wavelenght range of UV-Visible region?
(2) The following sentence is true or False? "$\pi \rightarrow \pi^*$ transition required more energy than $6 \rightarrow 6^*$ transition''.
(3) Give the name of thermal transducers used as detector in IR-spectroscopy?
(4) Give full form of FTIR.
(5) Give the wavelength range of IR region.

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

(1) Instrumentation of FTIR.
(2) Write a note on molecular absorption spectral and types of molecular energy.

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

(1) Write a note on of Raman spectroscopy.
(2) Theory of Infrared spectroscopy.

Que-2 Give the answer of following questions. (14)

(A) Answer the following question very shortly. (any four) (04)

(1) By whom the double helix structure of DNA was proposed?
(2) Define histone.
(3) Which enzyme is necessary to break the hydrogen bonds between two polynucleotide chains during DNA replication?
(4) Full form of DNA.
(5) Who is the pioneer of modern genetics?

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

(1) Describe the structure of eukaryotic chromosome.
(2) Explain the Mendel law of heredity.

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

(1) Write a note on RNA translation.
(2) Explain central dogma.

Que-3 Give the answer of following questions. (14)

(A) Answer the following question very shortly. (any four) (04)

(1) Define immunology.
(2) Give the types of immunity.
(3) Define Haptens.
(4) Define Allergens.
(5) Define immune system.

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

(1) Define immunity and give the difference between acquired and innate immunity.
(2) Write a note on antigen-antibody reaction.

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

(1) Explain structure of immunoglobulin.
(2) Types of naturally acquired immunity.

Que-4 Give the answer of following questions. (14)

(A) Answer the following question very shortly. (any four) (04)

(1) What is chromatography?
(2) Give the characteristics of mobile phase in GC.
(3) Full name of HPLC.
(4) Define electrophoresis.
(5) Give the name of classical methods of separation.

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

(1) Give the procedure for the development of paper chromatograph.

(2) Write a note on SDS-PAGE.

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

(1) Describe the instrumentation of GC with labeled diagram.

(2) Write a note on column chromatography.

Que-5 Give the answer of following questions. (14)

(A) Answer the following question very shortly. (any four) (04)

(1) Define cortex.

(2) Instrumental methods used for the analysis of fiber.

(3) In which cases diatoms are useful evidence?

(4) Give the example of body fluids.

(5) Morphological parts of hair.

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

(1) Significance of diatoms, Ecology and physiology of diatoms.

(2) Give the characteristics causing change in color of urine and What are the functions of Urine?

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

(1) Starch iodine and radial diffusion test for saliva.

(2) Forensic examination of hair.

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