647510 **0301219C1010** **Seat No: _____**

B.Sc.(FS) Semester - 2 (CBCS) Examination
March/April- 2019 (Old Course)
FORENSIC SCIENCE
(CORE)

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

Instructions:

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

Q – 1 (A) Objective type questions **(4)**

1. In Raman spectra, the lines to the right of Rayleigh peak and having higher value of wave no. are called as _____
2. Sound waves are Mechanical wave. True or False?
3. Example of electromagnetic wave
4. Define Wavelength.

Q – 1 (B) Answer in brief (Any 1 out of 2) **(2)**

1. Which information obtained from the spectrum of substance?
2. Define wave and wavelength.

Q – 1 (C) Answer in detail (Any 1 out of 2) **(3)**

1. Explain Types of spectra.
2. Types of molecular energy.

Q – 1 (D) Write a note on (Any 1 out of 2) **(5)**

1. Define spectra and explain its types.
2. Describe those effects which explain the wave nature of electromagnetic radiation.

Q – 2 (A) Objective type questions **(4)**

1. Bragg's Equation.
2. Who discovered the X-Rays?
3. List out the methods of x-ray techniques
4. Full form of EDS Energy

Q – 2 (B) Answer in brief (Any 1 out of 2) **(2)**

1. What is the characteristic of target of X-ray production unit?
2. Use of collimator in X-ray spectrometer

Q – 2(C) Answer in detail (Any 1 out of 2) **(3)**

1. Explain monochromator with figure.
2. Production of X-Rays.

Q – 2 (D) Write a note on (Any 1 out of 2) **(5)**

1. Instrumentation of X-ray spectrometer.
2. Production of X-Rays.

Q – 3 (A) Objective type questions **(4)**

1. _____is used as a material for prism used in the IR spectroscopy .
2. Wavelength of UV-Visible region.
3. In Argon ion Laser, Argon converts in to _____state to produce Laser light.
4. Define Chromophore

Q – 3 (B) Answer in brief (Any 1 out of 2) **(2)**

1. Forensic application of LASER.
2. Block diagram of instrumentation of single beam UV-Spectrophotometer.

Q – 3 (C) Answer in detail (Any 1 out of 2) **(3)**

1. Write a note on auxochrome.
2. Write a note on types of electron transition in UV-Visible spectroscopy.

Q – 3 (D) Write a note on (Any 1 out of 2) **(5)**

1. Write a note on Argon ion Laser.
2. Instrumentation of UV-spectrophoto meter.

Q – 4 (A) Objective type questions **(4)**

1. Centrifugation technique works on the basis of _____principle.
2. What is basic buffer solution?
3. Define pH.
4. Rpm means _____?

Q – 4 (B) Answer in brief (Any 1 out of 2) **(2)**

1. What is centrifugation? On which principle it works?
2. What is pH? And give the pH range for acidic and basic solution.

Q – 4 (C) Answer in detail (Any 1 out of 2) **(3)**

1. List out the types of centrifuge techniques.
2. .Write a note on buffer capacity and types of buffer solution..

Q – 4(D) Write a note on (Any 1 out of 2) **(5)**

1. Write a note on pH and PH meter
2. Write a note on buffer capacity and types of buffer solution.

Q – 5 (A) Objective type questions **(4)**

1. Give example of disaccharide.
2. Which sugar is present In RNA?
3. Guanine pairs _____ with _____ hydrogen bonds in DNA
4. Which macromolecules is the main source of cellular energy?

Q – 5 (B) Answer in brief (Any 1 out of 2) **(2)**

1. Draw the structure of amino acid.
2. What are the complimentary strands of following bases in RNA and DNA? Also give the number of hydrogen bonds between them. ACGAC

Q – 5 (C) Answer in detail (Any 1 out of 2) **(3)**

1. Which macromolecules are useful for genetic heredity? Give the types of it and how they differ from each other?
2. Explain oligosaccharide and polysaccharide.

Q – 5 (D) Write a note on (Any 1 out of 2) **(5)**

1. What is proteins and how it is formed? Explain the four structures of proteins.
2. Write a note on DNA.