

B.Sc. Semester - 2 (CBCS) Examination
June/July-2022 [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 in short: (04)

1. Mention types of scattering.
2. What does EMR stand for?
3. Define wavelength.
4. Mention the range of UV radiations.

Q - 1 (B) Answer any one in brief: (03)

1. Draw the EMR spectrum.
2. Explain Principal Quantum Number.

Q - 1 (C) Answer any one in detail: (07)

1. Mention all the quantum numbers and explain magnetic and spin quantum numbers in brief.
2. Explain the wave properties of radiation.

Q - 2 (A) Answer in short: (04)

1. What is the range of X-Rays?
2. What is used as sample holder in X-Ray Spectrometer?
3. What does EDX-RF stand for?
4. Who first discovered X-Rays?

Q - 2 (B) Answer any one in brief: (03)

1. Write a note on production of X-Rays.
2. Mention the sources and explain Coolidge tube in detail.

Q - 2 (C) Answer any one in detail: (07)

1. Explain the sources of X-Rays in detail.
2. Explain the detectors of X-Rays in detail.

Q - 3 (A) Answer in short: (04)

1. Mention sources of UV radiation.
2. What is the range of visible radiation?
3. Mention types of thermocouples.
4. Give an example of solid state and gas state laser.

Q - 3 (B) Answer any one in brief: (03)

1. Mention sources of IR radiations and explain any one in detail.
2. Mention detectors of UV-Visible radiation and explain Photodiode in detail.

Q - 3 (C) Answer any one in detail: (07)

1. Explain working of any one: Ruby Laser/ He-Ne Laser.
2. Explain UV-Visible spectrophotometer instrument in brief.

Q - 4 (A) Answer in short: (04)

1. Define pH.
2. Mention types of Refrigerated Centrifuge.
3. What does RCF stand for??
4. What does a basic equipment of centrifuge contain?

Q - 4 (B) Answer any one in brief: (03)

1. What are the desired characteristics of gradient materials?
2. Explain Desktop centrifuge in detail.

Q - 4 (C) Answer any one in detail: (07)

1. Explain types of rotors.
2. Explain Ultra Centrifuge in detail

Q - 5 (A) Answer in short: (04)

1. Which carbohydrate is a part of DNA structure?
2. What are the basic units of saccharides?
3. Give any two examples of lipids.
4. How many types of essential proteins are there?

Q - 5 (B) Answer any one in brief: (03)

1. Write a brief note on oligosaccharides.
2. Explain simple lipids in detail.

Q - 5 (C) Answer any one in detail: (07)

1. Explain the structure of DNA.
2. Write a note on polysaccharides.
