

B.Sc. Semester - 2 (CBCS) Examination
March/April -2019 (New Course)
FORENSICS 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 Give the answer of following questions. (14)

- (A) Answer the following question very shortly (any four) (04)
- (1) Define Spectroscopy.
 - (2) What is electromagnetic radiation?
 - (3) What is the wavelength range of X-Rays?
 - (4) Define frequency.
 - (5) Define amplitude.
- (B) Shortly answer any one question (03)
- (1) Mention the orbitals with their respective shapes.
 - (2) Define refraction and mention the formula for Snell's Law.
- (C) Answer any one question in detail (07)
- (1) Draw a diagram of electromagnetic spectrum with wavelengths of each radiation.
 - (2) Discuss the four quantum numbers in brief.

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

- (A) Answer the following question very shortly (any four) (04)
- (1) What does EDX-RF stand for?
 - (2) Mention the sources of X-Rays.
 - (3) What metal is used as filter for Cobalt Target?
 - (4) Who invented X-Rays?
 - (5) What does WDX-RF stand for?
- (B) Shortly answer any one question (03)
- (1) Discuss Auger effect.
 - (2) X - ray diffraction.
- (C) Answer any one question in detail (07)
- (1) Discuss the detectors of X-Rays.
 - (2) Explain the construction and working of Coolidge tube in detail.

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

- (A) Answer the following question very shortly (any four) (04)
- (1) Mention the sources for IR radiation.
 - (2) What does PMT stand for?
 - (3) Mention the properties of LASER.
 - (4) What is meant by coherence?
 - (5) What does MCT stand for?
- (B) Shortly answer any one question (03)
- (1) Explain the construction and working of Xenon Arc Lamp.
 - (2) Explain the construction and working of photographic detector in brief.

- (C) Answer any one question in detail (07)
- (1) Explain the construction and working of Ruby Laser.
 - (2) Discuss the sources of UV radiation in detail.

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

- (A) Answer the following question very shortly (any four) (04)
- (1) Define pH.
 - (2) What is buffer?
 - (3) Who employed the centrifuge for the first time?
 - (4) What does RCF stand for?
 - (5) What are fixed angle rotors?
- (B) Shortly answer any one question (03)
- (1) What are the properties of gradient material?
 - (2) Discuss iso pycnic centrifuge.
- (C) Answer any one question in detail (07)
- (1) Discuss the types of rotors in detail.
 - (2) Explain ultra centrifuge in detail.

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

- (A) Answer the following question very shortly (any four) (04)
- (1) What are simple lipids?
 - (2) What is saponification number?
 - (3) Mention the types of nucleic acids.
 - (4) What does a nucleoside consist of?
 - (5) Which histones are known as core histones?
- (B) Shortly answer any one question (03)
- (1) Give the significance of protein.
 - (2) Give the classification and significance of lipid.
- (C) Answer any one question in detail (07)
- (1) Describe the classification, properties and significance of carbohydrates.
 - (2) Describe the structure of DNA.
