

**BACHELOR OF SCIENCE (CARDIOVASCULAR TECHNOLOGY) (CBCS - 2020 COURSE)**  
**B. Sc. (Cardiovascular Technology) Sem - III : WINTER- 2022**  
**SUBJECT : MEDICAL ELECTRONICS, BIOPHYSICS USE TO CARDIAC**  
**TECHNOLOGY**

Day : Thursday

Time : 10:00 AM-12:00 PM

Date : 19-01-2023

**W-23348-2022**

Max. Marks : 20

**N.B.**

- 1) There are **THREE** section as  
Section – A = Objective Types Questions – 20 marks.  
Section – B = Long Answer Questions – 20 marks.  
Section – C = Short Answer Questions – 20 marks.
- 2) Section A is given in **SEPARATE** sheet and has to be answered on same sheet. This sheet should be completed within the first 20 minutes of starting of the examination. This sheet with Section A only will be collected by Supervisor.
- 3) Section B has three long questions and **ANY TWO** questions have to be answered.
- 4) Section C has six short questions and **ANY FOUR** questions have to be answered.
- 5) You have to make  such kind of mark in the box of the appropriate answers.

Seat No. : \_\_\_\_\_

**SECTION – A**

**M.C.Q.**

- 1) First case of human life saved by defibrillator was reported by
  - a)  Graham bell in 1948
  - b)  Beck in 1947
  - c)  Allan gel in 1946
  - d)  Thunder look in 1950
- 2) Which is the more accurate position to measure the BP?
  - a)  Sitting
  - b)  Standing
  - c)  Supine
  - d)  None of the above
- 3) Benefit of the computer use instead of manual data entry? Choose correct option.
  - a)  Computer data entry increases time but reduces the errors of entry
  - b)  It is helpful in communication and telemedicine which is time consuming
  - c)  It allow to auto prescribe medicine and doctors notes
  - d)  It helps to accurate diagnosis of the patient
- 4) The inside front surface of every CRT (Cathode Ray Tube) is coated with
  - a)  Magnesium
  - b)  Zinc
  - c)  Phosphorus
  - d)  None of the above

P.T.O.

- 5) Thickness of lead apron used in Cath-lab is
- a)  5mm
  - b)  0.25mm
  - c)  0.05mm
  - d)  0.5mm
- 6) During electrical shock electrical waveform delivers in a single direction from one electron to another is called
- a)  Biphasic waveform
  - b)  Triphasic waveform
  - c)  Monophasic waveform
  - d)  All of the above
- 7) Defibrillator was first demonstrated by
- a)  Albert hyman
  - b)  Claude beck
  - c)  William kouwenhoven
  - d)  Jean-louis prevost
- 8) Maximum limit dose of occupational radiation
- a)  0.2mGy
  - b)  2mGy
  - c)  5mGy
  - d)  None of the above
- 9) Which device is used to measure blood oxygen level in the body?
- a)  BP apparatus
  - b)  Pulse oximetry
  - c)  ECG machine
  - d)  None of the above
- 10) Radiation protection devices are all EXCEPT
- a)  Z kit
  - b)  Lead goggles
  - c)  Shin Guard
  - d)  Gloves

Total Marks Obtained : \_\_\_\_\_ Signature of Invigilator : \_\_\_\_\_

Signature of Examiner : \_\_\_\_\_

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Section – C = Short Answer Questions – 20 marks.
  - 2) Section B has three long questions and **ANY TWO** questions have to be answered.
  - 3) Section C has six short questions and **ANY FOUR** questions have to be answered.
  - 4) Answer to both the sections should be written in the **SAME** answer book.
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**SECTION – B**

**Long Answer (Attempt ANY TWO)**

**(20)**

- 1) Explain cathode ray tube and its uses.
- 2) Define defibrillators? Write its types.
- 3) Write about types of radiation, Radiation safety and Precautions to take during Cath-lab procedures.

**SECTION – C**

**Short Answer (Attempt ANY FOUR)**

**(20)**

- 1) Write note on pulse oximetry.
- 2) Write note on CD recording and storage.
- 3) Radiation hazards, write types of radiation.
- 4) Precautions to protect a pregnant women undergoing a procedure in Cath-lab.
- 5) Mention normal pressures of all cardiac chambers?
- 6) Explain BP recording in Cath-lab.

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