



Roll No.

Answer Sheet No. \_\_\_\_\_

Sig. of Candidate. \_\_\_\_\_

Sig. of Invigilator. \_\_\_\_\_

## RADIOGRAPHIC TECHNIQUES HSSC-I

### SECTION – A (Marks 20)

Time allowed: 25 Minutes

**NOTE:-** Section-A is compulsory and comprises pages 1-2. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

**Q. 1** Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) Which of the following does not have any electric charge?
  - A. Proton
  - B. Electron
  - C. Neutron
  - D. Positron
- (ii) Which of the following does not allow the current to flow through it?
  - A. Calcium
  - B. Iron
  - C. Rubber
  - D. Copper
- (iii) Which of the following parameter is not included in Ohm's Law?
  - A. Resistance
  - B. Current
  - C. Voltage
  - D. Conductance
- (iv) Which of the following particles has negligible mass?
  - A. Electron
  - B. Proton
  - C. Neutron
  - D. Atom
- (v) Which of the following laws is the working principle of a Generator?
  - A. Coulomb's Law
  - B. Ohm's Law
  - C. Laws of Resistance
  - D. Faraday's Law
- (vi) Which of the following is the unit of Energy?
  - A. Ohm
  - B. Watt
  - C. Watt-Hour
  - D. Ampere
- (vii) Which the following is defined as Capacity to do work?
  - A. Power
  - B. Potential Difference
  - C. Current
  - D. Energy
- (viii) Which of the following machines converts electrical energy into mechanical energy?
  - A. Generator
  - B. Ampere-meter
  - C. Motor
  - D. Transformer
- (ix) Which of the following is **TRUE** according to Coulomb's Law?
  - A. Like charges attract each other
  - B. Unlike charges attract each other
  - C. Only Negative charge attracts the positive charge
  - D. Positive charge repels the negative charge
- (x) Which of the following is the working principle of Transformer?
  - A. Mutual Induction
  - B. Self Induction
  - C. Magnetic Induction
  - D. Electromagnetic Induction





## RADIOGRAPHIC TECHNIQUES HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE:- Answer any ten parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

### SECTION – B (Marks 50)

**Q. 2 Attempt any TEN parts. The answer to each part should not exceed 2 to 4 lines. ( 10 x 5 = 50 )**

- (i) What is Ohm's Law?
- (ii) What is Potential difference?
- (iii) Differentiate between Power and Energy.
- (iv) What is the difference between Series and Parallel circuit?
- (v) Define Laws of Resistance.
- (vi) What is Electromagnet?
- (vii) Differentiate between A.C and D.C.
- (viii) What is Farady's Law of electromagnetic induction?
- (ix) What is magnetic induction?
- (x) What is **Capacitor** and **Capacitance**?
- (xi) What is Transformer?
- (xii) What is the R.M.S. value of A.C?
- (xiii) What is Radiation?
- (xiv) List the types of films used in Radiology.
- (xv) How is a film processed?

### SECTION – C (Marks 30)

**Note: Attempt any THREE questions. All questions carry equal marks. (3 x 10 = 30)**

- Q. 3** Write down the questions asked to a patient before any procedure.
- Q. 4** Discuss structure and working of Transformer.
- Q. 5** What is Rectification? Discuss with diagrams.
- Q. 6** Discuss the working of an Electric Generator.
- Q. 7** What is Radiation? Discuss its units and their use.