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. 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 is found in liquid solid and gas states?
A. Molecule B. Atom C. Matter D. All of these

(ii) When the number of electrons in an atom increases as compare to number of protons the atom is said to be?
A. Neutral B. An-ion C. Cat-ion D. Excited

(iii) What is called the rate of doing work?
A. Power B. Energy C. Ampere D. Potential difference

(iv) Which of the following is working principle of generator?
A. Coulomb's law B. Ohm's law
C. Resistance law D. Faraday's law of electromagnetic induction

(v) Which of the following machines works on mutual induction?
A. Generator B. Transformer C. Motor D. Galvanometer

(vi) Which of the following is unit of frequency?
A. Ohm B. Watt C. Ampere D. Hertz

(vii) In which of the following circuits current remains same throughout the resistance?
A. Series circuit B. Parallel circuit
C. Series-parallel circuit D. None of these

(viii) What is set up around the wire when current passes through it?
A. Magnetic field B. Electric field C. Electromagnetic field D. Nothing happen

(ix) Which is called the adding or deletion of electrons from the orbit?
A. Ionization B. Excitation C. Energy level D. Electron volt

(x) Which of the following effect is produce in a conductor when electrons continuously hit with the atoms in their path
A. Electromagnetic induction B. Heating effect
C. Resistance D. None of these

(xi) Which of the following is unit of energy?
A. Ohm B. Watt C. Ampere D. Watt-hour

(xii) Which one of the following is definition of potential difference?
A. Flow of electrons
B. Work done on an electron to move it against electrostatic forces
C. Work done on an electron to move it from one point to another point
D. None of these

(xiii) The current produces heating effect in the conductor due to:
A. The transfer of kinetic energy to the atoms B. Continuous hitting of electron with the atoms
C. Resistance in the wire D. All of these

(xiv) Which of the following relation is for ohm's law?
A. $V = IR$ B. $H = I^2Rt$ C. $Q = CV$ D. $L = \frac{N\phi}{I}$

(xv) Which of the following has the unit "Farad"?
A. Electrical potential B. Capacitance
C. Self-induction D. None of these

(xvi) The purpose of using dielectric in capacitors is to:
A. Create the potential difference B. Flow the current
C. Store charges D. All of these

(xvii) Split rings are used in the DC generator:
A. Continuously change the direction of current
B. Rotating the armature
C. Prevent the direction of current from changing
D. None of these

(xviii) Which of the following relation is for self-induction?
A. $M = \frac{N\phi}{I}$ B. $H = I^2Rt$ C. $Q = CV$ D. $L = \frac{N\phi}{I}$

(xix) The current in the metal flows due to the:
A. Resistance in the wire B. Free electrons present
C. Electric field D. None of these

(xx) Which one of the following is the unit of inductance?
A. Farad B. Ohm C. Henry D. Volts

For Examiner's use only:

Total Marks: 20

Marks Obtained:

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

(i) What is matter?

(ii) Differentiate energy and power.

(iii) Define Ampere.

(iv) What is ohm's law?

(v) What do you know about the laws of resistance?

(vi) Differentiate between AC and DC.

(vii) What is electromagnetic induction?

(viii) Why is series circuit used?

(ix) Differentiate between resistance and reactance?

(x) Briefly describe the structure of atom.

(xi) Define DC generator.

(xii) What is mutual induction?

(xiii) Define Farad.

(xiv) Define Potential Difference.

(xv) What are capacitors and its capacitance?

SECTION – C (Marks 30)

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

Q. 3 Explain the working of a transformer in detail.

Q. 4 Define electromagnetic induction and explain self-induction.

Q. 5 Explain the construction and working of an alternating current generator in detail.

Q. 6 Explain how the current flows through the metallic wire and what is the heating effect of a current?

Q. 7 Explain the magnetic effect of the current carrying conductor and write at least five medical uses of magnetic effect.