



Time allowed: 25 Minutes

Note: Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which 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.

1) Which of the following metals is most commonly used in conductors?

- 2) Which of the following chemicals is used in X-Ray films?

- 3) Which of the following units is used in measuring current?

- 4) Which of the following units is commonly used for energy measurement?

- 5) Which of the following particle has no charge?

- 6) Which of the following is true in Ohm's Law?

- 7) Which of the following is magnetic effect of current?

- 8) Which of the following laws is working principle of electric motor?

- 9) Which of the following is true for series circuits?

- 10) Which of the following machines is related to AC circuit only?

- Page 1 of 2 (Radiographic Tech.)

- 11) Which of the following is **NOT** in electromagnetic radiation spectrum?
- | | |
|------------------|------------------|
| A. Infrared rays | B. Visible light |
| C. Gamma rays | D. Sound waves |
- 12) Which of the following radiation is dangerous for genes of human body?
- | | |
|------------------|---------------|
| A. Infrared rays | B. Microwaves |
| C. Light waves | D. Gamma rays |
- 13) Which of the following units is used to measure radiation effects on human body?
- | | |
|-------------|----------|
| A. Roentgen | B. Rad |
| C. Ram | D. Curie |
- 14) Which of the following is true for X-Rays tube?
- A. It is always a gas filled glass tube
- B. It is vacuum tube
- C. It cannot withstand against high temperatures
- D. None of these
- 15) Which of the following is true for Capacitor?
- | | |
|-----------------------------------|----------------------------------|
| A. It is a device to store charge | B. It has two moving plates |
| C. It does not store charge | D. It is used to control current |
- 16) Which of the following is used to produce electric energy?
- | | |
|-----------------------|-------------------|
| A. X-Ray machine | B. Electric motor |
| C. Electric generator | D. Transformer |
- 17) Which of the following is working principle of Transformer?
- | | |
|------------------------------|------------------------------|
| A. Electromagnetic radiation | B. Electromagnetic induction |
| C. Mutual Induction | D. None of these |
- 18) Which of the following metals is used for radiation protection?
- | | |
|-----------|--------------|
| A. Copper | B. Aluminium |
| C. Lead | D. Glass |
- 19) Increase in which of the following causes increase in intensity of magnetic lines of force?
- | | |
|---------------|-------------------|
| A. Current | B. Voltage |
| C. Resistance | D. Field strength |
- 20) Which of the following increases penetrating power of X-Rays?
- | | |
|------------|------------------|
| A. Voltage | B. Current |
| C. Heat | D. None of these |

— 1HA 1950 —



RADIOGRAPHIC TECHNIQUES HSSC-I

118

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) Define current, potential difference and resistance. Also mention their units of measurement.
- (ii) Define matter, energy and power with their units.
- (iii) What is inductance and Impedance?
- (iv) What is resonance?
- (v) Write law of electromagnetic induction. Illustrate your answer with diagram.
- (vi) Write down properties of Parallel circuit.
- (vii) Define A.C. frequency and Sine wave.
- (viii) Write working principle of diode tube.
- (ix) Enlist methods of film processing and explain one of them.
- (x) Enlist the units of radiation and tell which quantity they measure.
- (xi) What are the effects of current and voltage on emission of X-Rays from X-Rays tube?
- (xii) What is Transformer? Enlist its parts.
- (xiii) Enlist parts of electric generator and write their function.
- (xiv) An A.C. circuit has 10 henry inductance and 20 ohm resistance connected in series. Circuit is supplied with 200 volts. Find its impedance and current.
- (xv) What is halfwave and full wave rectification?

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks.

(3 x 10 = 30)

- Q. 3** Write a detailed note on Atomic Structure.
- Q. 4** Write working of electric motor. Illustrate your answer with diagrams.
- Q. 5** What is a Film? Enlist types of films used in Radiography. Show their purpose of use along with sizes.
- Q. 6** Write a comprehensive note on working of X-Rays tube.
- Q. 7** What is composition and constituents of X-Rays film.

Result.pk