

509**April 2018**

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Define current and mention its unit.
2. Define frequency.
3. An inductor of 1 Henry is fed from 50 Hz source. What is the inductive reactance value?
4. Mention the losses in transformer.
5. What is the purpose of using starter?
6. Write a note on co-axial cable.
7. What is lightning?
8. Mention any two anti static protective devices.

PART – B

9. Define Ohm's law.
10. Write a note on low pass filter.
11. Draw three phase star and delta connections.
12. What is synchronous motor?
13. What is RMS value?
14. How do you identify wire types used in air craft?
15. What is electromagnetic interference?
16. Mention protective sleeving techniques used in EWIS.

[Turn over.....

PART - C

17. (a) Explain Kirchhoff's voltage and current laws.
(Or)
(b) A sinusoidal waveform is represented by the following equation. $v = 250 \sin 314 t$
Find (i)Peak value (ii)RMS value (iii)Frequency (iv)Peak to peak value.
18. (a) A circuit consists of $R=10 \Omega$ and $L=10 \text{ mH}$. The circuit is fed from 200V, 50Hz AC source. Find (i)Impedance (ii)Current (iii)Power factor (iv)Power of the circuit.
(Or)
(b) Explain the working principle of transformer with simple sketch.
19. (a) With simple sketch, explain the working of three phase alternator.
(Or)
(b) Explain any one method of starting three phase induction motor with diagram.
20. (a) Discuss about testing of electrical wiring inter connection system.
(Or)
(b) Discuss about the standards used for EWIS installation and maintenance.
21. (a) Write a note on: (i)Electromagnetic compatibility.
(ii)High intensity radiated field.
(Or)
(b) Describe about the handling of components, that are sensitive to electrostatic discharges.
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