

Register No.:

752

October 2017

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. What is the equivalent resistance, if $R_1=1\Omega$, $R_2=2\Omega$ and $R_3=3\Omega$ are connected in parallel?
2. Define power with its unit.
3. What is the concept of reactance?
4. Draw the RLC series circuit.
5. State any two applications of DC series motor.
6. State the types of CRO.
7. State the types of transducer.
8. What are the types of DVM?

PART - B

9. State and explain Ohm's law.
10. State KVL and KCL.
11. Define admittance, conductance and impedance.
12. State the uses of stepper motor.
13. State the types of DC motor.
14. Draw the diagram of Wheatstone bridge.
15. Mention the applications of thermistor.
16. What are the applications of touch sensor?

PART - C

17. (a) State and explain the super position theorem.

(Or)

(b) State and explain Norton's theorem.

18. (a) Derive an expression for impedance, admittance, power factor and power of RC series circuit.

(Or)

(b) Draw the circuit of parallel resonance and derive the expression for frequency of resonance.

19. (a) Derive the EMF equation of a transformer.

(Or)

(b) Explain with neat diagram, the operation of capacitor start induction motor.

20. (a) Draw the block diagram of CRO and explain its operation.

(Or)

(b) Explain the operation of digital storage oscilloscope with a neat block diagram.

21. (a) Explain the construction and working of load cell.

(Or)

(b) With neat diagram, explain the operation of a digital frequency counter.
