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4th Sem / Elect. Engg./ Power Station Engg. / Elect. & Eltx. Engg

Subject:- Electrical Measuring Instruments and Instrumentations / Elect. & Eltx. Measuring Instr.

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The electrical power to a Meggar is provided by (CO6)

a) Battery
b) Permanent magnet D.C. generator
c) AC. generator
d) Any of the above

Q.2 Which of the following instruments indicate the instantaneous value of the electrical quantity being measured at the time at which it is being measured ? (CO1)

a) Absolute instruments
b) Indicating instruments
c) Recording instruments
d) Integrating instruments

Q.3 The power of a n-phase circuit can be measured by using a minimum of (CO2)

a) (n-1) wattmeter elements
b) n wattmeter elements
c) (n+1) wattmeter elements
d) $2n$ wattmeter elements

Q.4 Two holes in the disc of energy meter are drilled at the opposite sides of the spindle to (CO6)

a) Improve its ventilation
b) Eliminate creeping at no load
c) Increase its deflecting torque
d) Increase its braking torque

Q.5 To extend the range of voltmeter, a resistance is connected to it in (CO3)

a) Series
b) Parallel with capacitor
c) Series-Parallel
d) none of these

Q.6 Induction type single phase energy meters measure electric energy in (CO2)

a) kW b) Wh
c) kWh d) none of these

Q.7 A power factor meter has (CO6)

a) One current circuit and two pressure circuits
b) One current circuit and one pressure circuit
c) Two current circuits and one pressure circuit
d) none of these

Q.8 Thermocouples are (CO5)

a) Active transducer b) Passive transducer
c) Strain gauge d) none of these

Q.9 A LCR meter can measure (CO6)

a) Inductance b) Displacement
c) Lavel d) Humidity

Q.10 A CRO can be used to measure (CO6)

a) Frequency b) Resistance
c) Power d) None of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Damping torque_____ the deflecting torque (CO1)

Q.12 The example of recording instrument is_____ (CO1)

Q.13 An Ammeter has very high internal resistance (T/F) (CO2)

Q.14 Current coil of the induction type energy is made of Thin Conductor (T/F) (CO6)

Q.15 MDI stands for_____ (CO2)

Q.16 In PMMC instruments, the scale is uniform (T/F) (CO3)

Q.17 P.T. are used to measure high value of DC current (T/F) (CO4)

Q.18 Power factor = Active power / _____ (CO2)

Q.19 Pyrometer is used to measure_____ (CO5)

Q.20 Pirani gauge is used to measure force (T/F) (CO5)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the classification of instruments. (CO1)

Q.22 Give the difference between Ammeter and Voltmeter (CO2)

Q.23 Explain the principle of Synccroscope. (CO3)

Q.24 Describe the construction and working of LVDT (CO7)

Q.25 Explain the principle and working of current transformer. (CO4)

Q.26 Explain the application of LCR meter. (CO6)

Q.27 Draw the block diagram of CRO. (CO6)

Q.28 Give the advantages of clamp on meter (CO6)

Q.29 Explain the Turbine flow meter used for the measurement of flow. (CO7)

Q.30 Explain the method used for the measurement of very high temperature. (CO5)

Q.31 Give the various application of CRO. (CO6)

Q.32 Draw and explain the construction of megger. (CO6)

Q.33 Explain the errors occurs in induction type energy meter. (CO6)

Q.34 Draw the block diagram of digital Energy meter (CO6)

Q.35 Explain the basic requirements of a transducers. (CO5)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain the working principle and construction of a moving iron instrument. (CO1)

Q.37 Explain the working principle and construction of Thermocouple. Also give its applications. (CO7)

Q.38 Explain the essentials of indicating instruments in detail. (CO1)

(**Note:** Course outcome/CO is for office use only)