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4th Sem / Elect, Power Station Engg., Elect. & Eltx Engg.
Subject:- Electrical Measuring Instruments and Instrumentation / Elect. & Eltx. Measuring Instr.

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The spring material used in spring control device should be. (CO1)
a) Non magnetic
b) of low temperature coefficient
c) Non subjected of fatigue
d) All of these

Q.2 For the measurement of high Resistance the instrument used is (CO2)
a) Earth tester b) Multimeter
c) Megger d) LVDT

Q.3 A moving iron instruments can be used for (CO2)
a) Both D.C. and A.C b) D.C only
c) A.C. only d) None of these

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 A CRO can be used to measure (CO6)
a) Frequency b) Resistance
c) Power d) None of these

Q.6 To extend the range of an ammeter, a resistance is connected to it in (CO2)
a) Series
b) Parallel with capacitor
c) Series- Parallel
d) none of these

Q.7 RTD is used to measure (CO5)
a) Flow b) Pressure
c) Stress d) Temperature

Q.8 Power in a three phase circuit is given by (CO6)
a) $\sqrt{3}V_L \sin\theta$ b) $\sqrt{3}V_L/_L \sin\theta$
c) $\sqrt{3}V_L/_L \cos\theta$ d) $3V_L/_L \cos\theta$

Q.9 The scale of Moving iron type instruments is (CO1)
a) Uniform
b) Non-uniform
c) Crowded at the lower ends
d) Crowded in the middle

Q.10 Strain gauge is used (CO7)
a) to convert sound energy into electrical energy
b) To sense temperature
c) To convert electric current into a mechanical displacement
d) To covert mechanical displacement into a change in resistance

SECTION-B

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

Q.11 Maximum value of power factor is_____ (CO2)

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

Q.13 An Ammeter is always connected in parallel (T/F) (CO2)

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

Q.15 CRT stands for_____ (CO2)

Q.16 MDI is used to indicate_____ (CO2)

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

Q.18 Active power KW = KVA x_____ (CO6)

Q.19 Platinum is commonly used metals for RTDs (T/F) (CO5)

Q.20 Pirani gauge is used to measure_____ (CO7)

SECTION-C

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

Q.21 Explain the integrating and recording instruments (CO1)

Q.22 Explain the different errors occurs in moving iron attraction type instruments (CO2)

Q.23 Explain the principle of synccroscope. (CO2)

Q.24 Differentiate between PMMC & Moving iron instruments. (CO6)

Q.25 Explain the current transformer. (CO7)

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

Q.27 Draw and explain CRT (CO6)

Q.28 Explain the working principle and construction of induction type energy meter (CO6)

Q.29 Explain the any one method for the measurement of flow. (CO7)

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

Q.31 Describe the various errors in Dynamo type wattmeter. (CO6)

Q.32 Write the advantages of poor power factor. (CO6)

Q.33 Explain Seeback effect. (CO5)

Q.34 Explain working of merger? (CO6)

Q.35 Explain the applications of LCR meter (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 repulsion type instrument. (CO1)

Q.37 Explain the measurement of power and power factor in a 3 phase unbalanced load by using two wattemeter method. (CO6)

Q.38 Write short note on

a) Errors in measurement

b) Earth tester

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