No. of Printed Pages : 4 180942/170942
Roll No. ..... /127542/106542/030942

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

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

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 In an instrument deflecting torque is used to (CO1)

a) Control the movement of the pointer

b) Make the pointer immediately

c) Bring the pointer back to zero when disconnected

d) Deflecting the pointer proportional to quantity being measure.

Q.2 In spring control controlling torque Tc (CO1)

a) Tc a q b) Tc a cos q

c) Tc a Sin q d) Tc a tan q

Q.3 Coil of moving iron instrument has (CO2)

a) Few turns, thick wire b) Few turns, thin wire

c) More turns, thick wire d) More turns, thin wire

Q.4 To extend the range of a voltmeter, a resistance is connected in (CO3)

a) Parallel b) Parallel-Series

c) Series d) None of these

Q.5 The ideal resistance of ammeter should ideally be (CO3)

a) Infinite b) Zero

c) Very small d) Very high

Q.6 Energy is defined as_____. (CO2)

a) Voltage/Current/Time b) Voltage X Current/Time

c) Voltage/CurrentXtime d) VoltageXCurrentXtime

Q.7 A maximum demand indicator measures (CO4)

a) Maximum demand indicator measure

b) Maximum energy consumed of load during a given period

c) Maximum current consumed by a load during a given period

d) Maximum voltage supplied to the load during a given period

Q.8 The pressure coil of an energy meter is (CO6)

a) Purely inductive b) Purely resistive

c) Purely capacitive d) Highly inductive

Q.9 Flickering of lamp used in synchronization depends upon (CO6)

a) Frequency of bus bar voltage

b) Frequency of incoming machine

c) Difference between frequency of bus bar and incoming machine

d) None of these

Q.10 The voltmeter of the thermocouple is calibrated in terms of_____. (CO7)

a) Voltage b) Power

c) Current d) Temperature

Section-B

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

Q.11 Expand CRO. (CO6)

Q.12 Creeping error occurs in watt meter.(True/False).(CO4)

Q.13 A synchroscope is used to measure _____ of the incoming machine. (CO6)

Q.14 Transducer converts a physical quantity into _____ signal. (CO7)

Q.15 What is an active instrument? (CO1)

Q.16 Name any integrating type instrument. (CO1)

Q.17 Give applications of spring control method. (CO1)

Q.18 Name the type of moving iron instruments. (CO2)

Q.19 What is the use of phase sequence indicator? (CO6)

Q.20 On which phenomenon Electrodynamometer works? (CO2)

Section-C

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

Q.21 Explain the working principle of multimeter. (CO6)

Q.22 Describe a transducer. What are the advantages of using a transducer? (CO7)

Q.23 Write a short note on Resistance Temperature detector. (CO7)

Q.24 State the applications of photoelectric transducers. (CO7)

Q25 List the errors of dynamometer wattmeter. (CO2)

Q.26 Explain the working of power factor meter. (CO2)

Q.27 What do you mean by synchroscope? Explain its working using diagram. (CO6)

Q.28 Write a short note on Earth tester. (CO6)

Q.29 Explain the working of digital energy meter with block diagram. (CO2)

Q.30 Explain any one method for producing controlling torque. (CO1)

Q.31 Explain any one of the moving iron instruments. (CO2)

Q.32 List applications of thermistor. (CO6)

Q.33 Draw and explain the block diagram of basic measurement system. (CO1)

Q.34 Differentiate between moving iron and moving coil instrument. (CO2)

Q.35 Explain the terms loading effect and creeping error with example. (CO2)

Section-D

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

Q.36 Give the working of (a) current transformer (b) potential transformer. (CO4)

Q.37 Explain the construction of CRO with diagram. How it is used to measure phase difference between two sinusoidal signals. (CO6)

Q.38 Explain the construction, working and limitations of LVDT with diagram. (CO7)