

Sardar Patel University

B.Sc. (semester-III) CBCS Examination Nov.-2018

Subject Code: US03EEL02

Subject: Instrumentation

Date: 30/11/2018, Friday

Time: 2:00 to 4:00 pm

Maximum Marks: 70

Q-1 Multiple Choice Questions.

(10)

1. _____ element is used for manipulating/processing the output of the transducer in the suitable form.
 - a) signal conditioning
 - b) data presentation
 - c) transducer
 - d) transformer
2. Voltage gain of the amplifier is given by _____.
 - a) output voltage / input voltage
 - b) output power / input power
 - c) output current / input current
 - d) none
3. Which class of error mainly covers human mistake?
 - a) Gross error
 - b) Dynamic error
 - c) Random error
 - d) None
4. Deviation from the true value of the measured value is known as _____.
 - a) error
 - b) Resolution
 - c) Accuracy
 - d) Sensitivity
5. 1 tera is equivalent to _____.
 - a) 10^{-06}
 - b) 10^{-09}
 - c) 10^{15}
 - d) 10^{12}
6. 1 int. Ohm = _____ Ohm (practical CGSm unit)
 - a) 1.049
 - b) 1.00049
 - c) 0.99985
 - d) 1.00019
7. 1 inch = _____ mm.
 - a) 2.54
 - b) 25.4
 - c) 0.254
 - d) 0.0254
8. The equation for the developed torque, derived from the basic law for the electromagnetic torque is _____.
 - a) $T=B*J*I*N$
 - b) $T=B*A*I*N$
 - c) $T=A*I*N$
 - d) $T=J*I*N$
9. _____ is the voltmeter sensitivity.
 - a) $S=1 / V_{fsd}$
 - b) $S=1 / I_{fsd}$
 - c) $S=V / I_{fsd}$
 - d) $S=I / I_{fsd}$
10. Probable error $r =$ _____.
 - a) $\pm 6745\sigma$
 - b) $\pm 0.06745\sigma$
 - c) $\pm 0.006745\sigma$
 - d) $\pm 0.6745\sigma$

Q-2 Answer in short. (Any Ten)

(20)

1. What is the self generating and power operated instruments?
2. Explain basic functional element of a measuring system.
3. Explain Auxiliary functional element of a measuring system.
4. Define: Accuracy and Resolution
5. Define: Precision and Sensitivity.
6. Explain Arithmetic mean.

7. Explain limiting errors.
8. What are the primary and auxiliary fundamental units?
9. Explain fundamental and derived units?
10. The floor area of an office building is 5000m^2 . calculate the floor area in ft^2 .
11. Draw the basic DC voltmeter circuit diagram.
12. Explain multirange voltmeter.

Q-3 Explain Typical application of instrument systems. (10)

OR

Q-3 Draw the bourdon tube pressure gauge and explain its working. (10)

Q-4 A Explain types of errors in detail. (07)

B Explain standard deviation. (03)

OR

Q-4 C A set of independent current measurement was taken by six observers and recorded as 12.8mA, 12.2mA, 12.5mA, 13.1mA, 12.9mA, 12.4mA. (07)

- Calculate (a) the arithmetic mean
 (b) the standard deviation of the readings
 (c) the probable error.

D In calculating voltage drop, a current of 3.18 A is recorded in a resistance of 35.68 ohm. Calculate the voltage drop across the resistor to the appropriate number of significant figures. (03)

Q-5 A Derive electric and magnetic units. (07)

B A flux density in CGS system expressed as 20 Maxwell/ cm^2 . Calculate the flux density in lines / in^2 . (1 Maxwell= 1 line) (03)

OR

Q-5 C Express the density of water 62.5 lb/ft^3 in to (a) lb/in^3 (b) g/cm^3 (07)

D The velocity light in free space is given as 2.997925×10^8 m/s. Express the velocity of light in Km/hr. (03)

Q-6 Explain Torque and Deflection of galvanometer. (10)

OR

Q-6 Draw the series type ohm meter circuit and explain it in detail. (10)



[4-A-2 E] Seat No: _____

No. of printed page: 02

SARDAR PATEL UNIVERSITY
B.Com (3rd - Semester) (Regular & NC) Examination
Friday, 30th November 2018
10.00 am - 12.00 pm
UB03CCOM01 - Materials and Production Management

Total Marks : 60

Note- Figures to the right indicate marks.

Q.1 What is materials Management? Explain its importance. (15)

OR

Q.1 Explain the various objectives of materials Management. (15)

Q.2 What is purchasing? Explain its objectives. (15)

OR

Q.2 Explain the Principles of Purchasing. (15)

Q.3 What is Production Management?. Explain its importance. (15)

OR

Q.3 Explain the scope of Production Management. (15)

Q.4 Write Short Notes **(Any Two)** (15)

- (1) Objectives of Plant layout.
- (2) Factors affecting plant Location.
- (3) Types of plant layout.
- (4) Principles of Plant Layout.

(P.T.O.)

[4/A-2]
[G]

Seat No: _____

No. of printed page : 2

SARDAR PATEL UNIVERSITY
B.COM. (3rd-SEMESTER) (Regular & NC) EXAMINATION
Friday, 30th November 2018
10.00 a.m. to 12.00 p.m.
UB03CCOM01 - Materials and Production Management

કુલ ગુણ - ૬૦

સૂચના : જમણી બાજુના આંક ગુણ દર્શાવે છે.

- પ્ર.૧ માલસામગ્રી સંચાલન એટલે શું? એનું મહત્વ સમજાવો. (૧૫)
અથવા
- પ્ર.૧ માલસામગ્રી સંચાલનનાં વિવિધ ધ્યેયો સમજાવો. (૧૫)
- પ્ર.૨ ખરીદી એટલે શું? એનાં ધ્યેયો સમજાવો. (૧૫)
અથવા
- પ્ર.૨ ખરીદીનાં સિદ્ધાંતો સમજાવો. (૧૫)
- પ્ર.૩ ઉત્પાદન સંચાલન એટલે શું? એનું મહત્વ સમજાવો. (૧૫)
અથવા
- પ્ર.૩ ઉત્પાદન સંચાલનનું કાર્યક્ષેત્ર સમજાવો. (૧૫)
- પ્ર.૪ ટૂંક નોંધ લખો. (ગમે તે બે) (૧૫)
(૧) કારખાનાં વિન્યાસનાં હેતુઓ.
(૨) ચંત્ર ગોઠવણીને અસર કરતા પરિબળો
(૩) કારખાનાં વિન્યાસનાં પ્રકારો.
(૪) કારખાનાં વિન્યાસનાં સિદ્ધાંતો.

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