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Question Paper Code: 53U02

M.E. DEGREE EXAMINATION, NOV 2019

Third Semester

Structural Engineering

15PSE302 – Experimental Techniques & Instrumentation

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 1= 5 Marks)

1. Strain gauge is using for measure the ----- CO1- R
(a) Geometry (b) Deformation (c) Stiffness (d) None of the above
2. Characteristics of structural vibration ----- CO2 -R
(a) Acceleration (b) Frequency (c) Amplitude (d) All the above
3. Clam is related to CO3- R
(a) Water (b) Land (c) Fire (d) Wind
4. Very wide crake width is CO4 -R
(a) 2 mm (b) 5 mm (c) 1mm (d) 10 mm
5. Which is the semi NDT test? CO5- R
(a) UPV (b) Rebound hammer (c) Cores cutting (d) All the above

PART – B (5 x 3= 15Marks)

6. What are the advantages of optic sensors CO1-U
7. Short note on velocity and temperature transducer? CO2-U
8. How does a sound meter work?. CO3-U
9. Explain the working principle of half-cell.. CO4-U
10. Short note on holography? CO5-U

PART – C (5 x 16= 80 Marks)

11. (a) Briefly explain the working principle of pressure gauges with neat sketch. CO1- U (16)
- Or
- (b) List out the load cell and explain the electronic load cell . CO1- U (16)
12. (a) What are the Principles of Cathode Ray Oscilloscope CO2- U (16)
- Or
- (b) Why adopt the data acquisition system in industries CO2- U (16)
13. (a) Write a short note on pressure transducers, sound level meter, venturimeter and flow meters CO3-U (16)
- Or
- (b) What are the different flow meter technologies used in flow measurement CO3-U (16)
14. (a) What are the factors that affect the process of corrosion in RC structures? Explain? CO4- U (16)
- Or
- (b) Explain the re-barring technology? CO4- U (16)
15. (a) Explain, how to load testing on bridges? CO5-U (16)
- Or
- (b) Briefly explain the NDT tests with neat sketch? CO5-U (16)