QP CODE: 24000621

24000621

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, MARCH 2024

Sixth Semester

CHOICE BASED CORE COURSE - PH6CBT04 - INSTRUMENTATION

Common for B.Sc Physics Model I, B.Sc Physics Model II Applied Electronics, B.Sc Physics Model II Computer Applications & B.Sc Physics Model III Electronic Equipment Maintenance

2017 Admission Onwards

FEF1E6A7

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Explain direct method of measurement. Give an example.
2. Write a note on electronic instruments.
3. Explain intelligent instrumentation systems.
4. Why is crossed-spring flexture pivot widely used?
5. Give the names of three pressure sensitive primary devices.
6. Write a brief note on different types of potentiometers.
7. Briefly explain the importance of rosettes over single element strain gauge.
8. Give the working principles of a variable inductance transducer.
9. What are synchros? Write their uses.
10. List the applications of semiconductor photoelectric transducer.
11. Differentiate between piezoelectric effect and piezoresistive effect.
12. What are tachometer encoders?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain the variable manipulation element in a measurement system.

14. Define the following: a) Transducer b) inverse transducer c) output transducer
15. Summarize the factors influencing the choice of transducers.
16. How is a sensor electrically characterized?
17. With the help of a diagram explain unbonded metal strain gauges.
18. Explain the characteristics of thermistors.
19. Explain the different compensating circuits for thermocouple.
20. Briefly explain the capacitive microphones.
21. Differentiate between photo-conductive and photoemissive cells.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain the various classifications of instruments.
23. Differentiate between inferential type and absolute measurement type flow rate measuring devices.
24. Describe the construction of LVDT. Mention its advantages and disadvantages.
25. Mention the working of hall effect transducer and its application.

(2×15=30)