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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2022

Fourth Semester

B.Sc. Chemistry (Vocational) Model II

INSTRUMENTAL METHODS OF CHEMICAL ANALYSIS—II

(2013—2016 Admissions)

Time : Three Hours Maximum Marks : 60

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is process instrumentation ?
2. What is the application of manometer ?
3. How is viscosity flow measured ?
4. How do you measure density of a liquid ?
5. Give an example of telemetry ?
6. What is fibre optics ?
7. What is an ALU in a CPU ?
8. Why do we use 'int' in C ?

(8 × 1 = 8)

Part B

Answer any **six** *questions.*
Each question carries 2 *marks.*

9. What is laboratory instrumentation ?
10. Discuss the principles in which a manometer is based on ?
11. What are the advantages of Pirani gauge ?
12. What are the direct methods of liquid level measurement ?

Turn over

13. What are main ways to measure density ?

14. What are the important parts of a microprocessor ?

15. What types of signal transmission are used in telemetry ?

16. What do you mean by multiplexing ?

17. What are the applications of C programming ?

18. What is primary data type in 'C' /

(6 × 2 = 12)

Part C

Answer any **four** *questions.*
Each question carries 4 *marks.*

19. Briefly explain the principle and working of vapour filled thermometers.

20. What are the difference between process instrumentation and laboratory instrumentation ?

21. Briefly explain the construction and working of bubbler system.

22. Discuss the advantages of microprocessor based instruments.

23. Distinguish between simplex communication, half- duplex communication, and full-duplex communication.

24. What is C programming ? Discuss its advantages ?

(4 × 4 = 16)

Part D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. Explain the principle, construction and working of glass thermometers.

26. Explain the principle, construction and working of liquid level measurements.

27. Explain different types of telemetry systems.

28. Discuss the use of computer programming in chemistry. Construct a programme to calculate rate constant of a first order reactions.

(2 × 12 = 24)