



QP CODE: 25021696



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Reg No : .....

Name : .....

**B.VOC DEGREE REGULAR/REAPPEARANCE EXAMINATIONS, MARCH 2025**

**Sixth Semester**

B.Voc Industrial Instrumentation and Automation

**IIAG602 - DISTRIBUTED CONTROL SYSTEM**

2018 Admission Onwards

2B6CEEFD

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

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

1. Define Active Digital computer control applications in the process industries.
2. What are the 4 major duties of a Control Computer Systems?
3. What is the function of a DCS/PLC output module?
4. What are overview graphic displays in a DCS operator station?
5. What is the full form of HART?
6. Define cascade control algorithm.
7. Define the bus access method of Bus arbitration used in FIPBUS.
8. Mention any 2 functions of online information system.
9. Give an example for online optimization algorithm.
10. Give an example of an ERP application.
11. Define program invocations as a communication object.
12. Define MODBUS.

(10×2=20)

**Part B**

*Answer any **six** questions.*

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

13. Write a short note on Distributed computer control system.





14. Write a short note on Super commutation in telemetry.
15. Write a short note tree network topology.
16. Write a short on dead band control.
17. Write a short note on advantages of position and velocity algorithms.
18. Briefly explain the 3 functions of a supervisory control.
19. Write a short note on algorithm initialisation for supervisory control.
20. Briefly define the Parallel and Serial transmission modes.
21. Write a short note on the benefits of adopting Fieldbus as a International standard.

(6×5=30)

### **Part C**

*Answer any **two** questions.*

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

22. Explain in detail the hardware software interfacing of supervisory computer with DCS.
23. Explain in detail about the below systems : Local control unit, Generic dedicated card controller, Unit Controller and remote station.
24. Explain in detail about control system software configuration.
25. Explain in detail about the Master slave polling Mention advantages, limitations and improvement areas.

(2×15=30)

