

SARDAR PATEL UNIVERSITY**B.Sc. (Instrumentation (Voc.)) Semester VI Examination****Control Room Instrumentation (US06CINV03)****Friday, 1st April 2016****Time: 2:30 pm – 5:30 pm****Total Marks: 70****Note: The figures to the right indicate maximum marks.**

- Que.1 Answer the following questions by selection most appropriate option. 10**
- 1 Which of the following control panel type has shortest height?

A. Flat	B. Frontbreak
C. Console	D. All are of same height
 - 2 Strength wise which material is best for panel construction?

A. Plastic	B. Aluminium
C. Steel	D. Fiber glass
 - 3 Combustible material in the form of a dust is falling in _____ category

A. Class I	B. Class II
C. Class III	D. None of the above
 - 4 Which of the following graphic panel is preferred in DCS based control rooms?

A. Full graphic	B. Semi graphic
C. Console	D. Projection type
 - 5 _____ Switch is used to stop flashing indicator in annunciator.

A. TEST	B. ACK
C. RESET	D. LATCH
 - 6 Which annunciator system is used in maintaining log of events?

A. Integrated	B. Remote
C. Recording	D. Vocal
 - 7 What is not true for a diskless workstation?

A. It is connected through LAN	B. It is cheaper
C. It stores data on server	D. They don't need network
 - 8 Which is not a reason for power failure?

A. Source failure	B. Bus failure
C. System failure	D. All are possible
 - 9 Variable area type indicators are _____

A. Motion-balance indicators	B. Rotameters
C. d'Arsonval's movement	D. All
 - 10 Which of the following recorder use no paper?

A. Circular recorder	B. Strip-chart recorder
C. Multiple recorder	D. Data logger

- Que. 2 Answer the following questions in brief (any Ten) 20**
- 1 Explain briefly vocal annunciator.
 - 2 Write a brief note on TEST and REPEATER function.
 - 3 Enlist briefly the optional features of annunciator system.
 - 4 Explain briefly human engineering in panel design.
 - 5 Write a brief note on types of panel.

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- 6 Mention merits and demerits of steel for fabrication of panels.
- 7 Write a short note on Uninterruptible Power Supply network and buses
- 8 Write a short note on protective components
- 9 Enlist hardware components of a workstation
- 10 Enlist different recording methods
- 11 Write a brief note on tape recording.
- 12 Write a brief note on digital indicators

Answer the following questions in detail.

- Que.3**
- A Explain in detail the old and new ISA sequences of annunciator operation. 05**
- B Describe with necessary diagrams integral and remote annunciator systems. 05**
- OR
- A What is annunciator? Explain its operational principle. 05**
- B Describe with necessary diagrams semi-graphic and recording annunciator systems. 05**
- Que.4**
- A With help of necessary diagrams explain traditional control panel layout. 05**
- B With help of necessary diagrams explain different types of traditional control panels. 05**
- OR
- A With necessary diagrams explain back panel layout. 05**
- B Write a detailed note on panel tubing and wiring. 05**
- Que.5**
- A Write a detailed note on power failure classification 05**
- B Describe in detail the hardware components and software features for workstation. 05**
- OR
- A Write a detailed note on different transfer systems. 05**
- B Write a detailed note on static inverter 05**
- Que.6**
- A Enlist different sensor mechanisms of indicators and explain any two in detail with necessary diagrams 05**
- B Write a detailed note on recording methods. 05**
- OR
- A Write a detailed note on recording methods. 05**
- B Describe fixed scale and movable scale indicators with necessary diagrams 05**

Best Wishes