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SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

**SARDAR PATEL UNIVERSITY V.V.NAGAR**B.Sc.(VI<sup>th</sup> SEM.) INSTRUMENTATION (V) EXAMINATION

CONTROL ROOM INSTRUMENTATION

SUB.CODE - US06CINV03

DATE:-31/03/2018, Saturday TIME:- 10:00 am to 1:00 pm

MARKS-70

**Q-1 Choose correct answer**

[10]

1. Which of the following control panel is preferred for DCS based control rooms?  
(A) Flat (C) Console  
(B) Front break (D) none of above
2. To generate A.C power without battery backup \_\_\_\_\_ is used.  
(A) UPS (C) both (A) and (B)  
(B) UVS (D) none of above
3. Which annunciator system is used for log of warning?  
(A) integral annunciator (C) recoding annunciator  
(B) graphic annunciator (D) none of above
4. Class I panel wiring is proffered for \_\_\_\_\_.  
(A) combustible gas (C) combustible dust  
(B) combustible fiber (D) none of above
5. Pneumatic annunciators are designed using \_\_\_\_\_.  
(A) relays (C) pneumatic devices  
(B) transistors (D) all of above
6. Which of the following is not a type of work station?  
(A) portable (C) operator  
(B) engineer (D) none of above
7. Annunciator used for field instrument is \_\_\_\_\_.  
(A) vocal annunciator (C) semi graphic annunciator  
(B) relay type annunciator (D) none of above
8. To maintain log of warning which type of annunciator is used?  
(A) integral (C) graphic  
(B) solid state (D) none of above
9. \_\_\_\_\_ is transfer mode is fasted.  
(A) multi-cycle (C) no break  
(B) sub cycle (D) all of above are same speed
10. When test button is pressed \_\_\_\_\_.  
(A) all lamps in annunciator panel must glow (C) all lamp should illuminate one after other  
(B) all lamps in annunciator panel must turn off (D) none of above

**Q-2 Short answer type question. (any ten)**

[20]

1. Briefly explain bus transfer switch.
2. Enlist different types of panel instruments.
3. Describe in brief role of test and acknowledged buttons on annunciator panel.
4. Briefly explain strip chart recorders.
5. Differentiate UVS and UPS.
6. Briefly explain REPEATER feature in annunciator.
7. Briefly explain high density instruments.
8. Describe in brief traditional control rooms.

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(P.T.O.)

9. Describe break front panels.
10. Describe in brief uninterruptible voltage supply.
11. Enlist advantage and disadvantage of steel as construction material for panels.
12. Explain large case instrument.

Q.3 Enlist all types of annunciator. Explain integral and recording type's annunciators with necessary diagram. [10]

OR

Q.3(A) Write short note on operational principle of annunciator system. [05]

Q.3(B) Explain solid state annunciator panel [05]

Q.4(A) Explain in details panel wiring and tubing. [05]

Q.4(B) Explain panel material of construction. [05]

OR

Q.4(A) Explain in details the graphic panels. [05]

Q.4(B) Describe control room for DCS system. [05]

Q.5 Explain in details rotary equipments and batteries for UPS with necessary figure. [10]

OR

Q.5 Give a detailed account on power failure classification. [10]

Q.6 Write a detailed note on light beam recorder with necessary diagram. [10]

OR

Q.6(A) Explain moveable scale indicators. [05]

Q.6(B) Explain potentiometric recorder with necessary diagram. [05]

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2