

Roll No

Y-63

Total No. of Questions : 23]

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11th ARM(H/Z)JKUTL2024-25

563

***ELECTRONICS AND
HARDWARE***

(Vocational)

Time : 2½ Hours]

[Maximum Marks : 50

Section-I

(Very Short Answer Type Questions)

1 each

1. How can you prioritize task effectively ?

- (A) By working on tasks in the order they were received**
- (B) By working on tasks based on their complexity**
- (C) By working on tasks based on their urgency and importance**
- (D) By working on the tasks that are easier to complete first**

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Turn Over

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2. Personal grooming is an extension of :
- (A) Public hygiene
 - (B) Personal hygiene
 - (C) Personal development
 - (D) Professional ethics
3. If D.C. motor is connected across the A.C. supply, it will :
- (A) Run at normal speed
 - (B) Not run
 - (C) Run at lower speed
 - ~~(D)~~ Burns due to heat produced in the field windings by eddy currents
4. The resistivity of a conductor depends on :
- (A) Area of conductor
 - (B) Length of conductor
 - ~~(C)~~ Type of material
 - (D) None of these

5. The resistance of a conductor of diameter ' d ' and length ' l ' is $R \Omega$. If the diameter is halved and length is doubled, the resistance will be :

(A) $R \Omega$

(B) $2R \Omega$

(C) $4R \Omega$

☒ (D) $8R \Omega$

6. A PN junction diodes is forward biased when :

☒ (A) P is connected to +ve terminal and N is connected to -ve terminal

(B) Both P and N are connected to positive terminal

(C) Both P and N are connected to negative terminal

(D) None of these

7. Which of the following is the unit of compressor capacity ?
- (A) Meter
 - (B) (Meter)²
 - (C) (Meter)³
 - ✓(D) (Meter)³/second
8. Full form of BTU is :
- (A) Bharat Transportation Unit
 - (B) Bharat Thermal Unit
 - ✓(C) British Thermal Unit
 - (D) British Thermal Utilization
9. extinguishers are ideal for places with a lot of electrical equipment such as offices or server rooms
- (A) Cl_2
 - (B) SO_2
 - ✓(C) CO_2
 - (D) N_2S

10. The type of fire extinguisher to put out an electrical fire is :

(A) Class a

~~10~~ (B) Class b

(C) Class c

(D) Class d

Section-II

(Short Answer Type Questions-I)

2 each

~~11~~ 11. What is meant by the term clearance pocket ?

12. Briefly discuss the effect of volumetric efficiency on engine/compressor performance.

~~13~~ 13. Name any four greenhouse gases.

~~14~~ 14. Elaborate the function of a clamp meter.

~~15~~ 15. What is Hazard ? Write down one hazard that is related to the installation of an AC.

Section-III

(Short Answer Type Questions-II)

3 each

16. Do you prefer working with others in a team or alone ? Give *two* examples of your team work.
17. How do electric and magnetic circuits compare and contrast ?
- ~~18.~~ What are the seven basic logic gates ? Explain *two* of them.
19. Explain 'Bypass Capacity Control' in reference to a compressor.
- ~~20.~~ What are the important characteristics of a refrigerant ?

Section-IV

(Long Answer Type Questions)

5 each

- ~~21.~~ Explain how different values of an entrepreneur help him to achieve his goal. Also explain the importance of understanding the market before starting a new enterprise. <https://www.jkboseonline.com>

Or

Define the term 'Green Economy'. What are the main sectors of green economy ?

- 22** State and explain maximum power transfer theorem. Deduce mathematical expression.

Or

Explain the working of D.C. motor in detail.

- 23.** What is a CRO ? Draw the block diagram of CRO and explain its working.

Or

Explain the working of a PN junction diode both in forward and reverse bias. Draw V-I characteristics also.