

**Keys for written test for the Post of BMS Engineer (SDC) in SOVTECH held on 29.12.2021**

Sl. No	Question Text	Answer Choice 1	Answer Choice 2	Answer Choice 3 (optional)	Answer Choice 4 (optional)	Correct answer
1.	In all water system of central air conditioning system	Cooling medium is chilled water or brine water and not direct refrigerant	The cooling medium may be supplied from a source away from the conditioned space	The cooling medium may be circulated through the coils of an air terminal	All of the above	Choice 4
2.	The air conditioning system selection	Should provide correct temperature, humidity, air movement, air cleanliness, ventilation and noise level otherwise it is rejected	Should be most economical otherwise it is rejected	Should be able to take up the peak load of the year otherwise it is rejected	Should satisfy the customer concept of environment desired otherwise it is rejected	Choice 4
3.	What is the minimum permissible single phase working voltage, if the declared voltage is 240V as per ISI?	233 V	228 V	216 V	211 V	Choice 2
4.	Which term refers that the mass of a substance liberated from an electrolyte by one coulomb of electricity?	Electrolysis	Electro plating	Electro copying	Electro chemical equivalent	Choice 3
5.	What device has to be added for running three phase 5 HP motor from the available single phase source?	STAR/DELTA starter	DOL starter	Inverter/UPS	Not possible	Choice 3
6.	Which type of fire extinguisher must NOT be used in case of electrical base fire	Halon extinguisher	Carbon Chloride extinguisher	Foam extinguisher	Dry power extinguisher	Choice 3
7.	Which principle the constant voltage transformer works?	Self- induction principle	Fall in potential principle	Ferro- resonant principle	Mutual induction principle	Choice 3
8.	The armature of DC generator is laminated to	Reduced the bulk	Provide the bulk	Insulate the core	Reduce eddy current loss	Choice 4
9.	What is the effect in internal resistance of a discharged cell?	Increase	Decrease	Becomes zero	Remain same	Choice 1
10.	By adding a _____, we only need one monitor to view four cameras and all four camera images are recorded.	Multiplexer	VCR	Monitor	Diplexer	Choice 1
11.	What will be the backup time of a UPS if it is backed by 150 Ah, 12 V battery driving a load of 150 W ?	10 h	14 h	16 h	12 h	Choice 4
12.	The maximum temperature permitted for class A insulation is	180 °C	105 °C	120 °C	155 °C	Choice 2
13.	Which of the following plants is suitable for peak load?	Diesel engine plant	Steam power plant	Hydro-electric Plant	Nuclear Plant	Choice 1
14.	For summer air conditioning the relative humidity should not be less than	40%	60%	75%	90%	Choice 2
15.	Phase information of UPS is of no use during	Voltage dip	long sag	interruptions	All of the above	Choice 4

Sl. No	Question Text	Answer Choice 1	Answer Choice 2	Answer Choice 3 (optional)	Answer Choice 4 (optional)	Correct answer
16.	Calculate the hydrostatic pressure at the bottom of a vessel holding 17 vertical feet of liquid with a density of 55 lb/ft <sup>3</sup> .					Choice 4
17.	Which of the following electrical machines has the highest efficiency?	D.C shunt motor	Transformer	Induction motor	Synchronous motor	Choice 2
18.	Calculate the hydrostatic pressure at the bottom of a vessel holding 17 vertical feet of liquid with a density of 55 lb/ft <sup>3</sup> .	Star	Bus	Ring	Cap	Choice 4
19.	A reversible engine has ideal thermal efficiency of 30%. When it is used as a refrigerating machine with all other conditions unchanged, the coefficient of performance will be	1.33	2.33	4.33	3.33	Choice 2
20.	If the diameter of a conductor is double, then its resistance will be reduced to	Half	One-fourth	One-eight	One-Sixth	Choice 2
21.	What is the full form of SMF battery?	Special Multi Free	Sealed Maintenance Free	Special Mains Free	Sealed Multi Free	Choice 2
22.	In summer comfort cooling the air of the occupied space should not have a relative humidity above	30 %	40 %	50 %	60 %	Choice 4
23.	Which component makes an online UPS different from offline UPS?	Charge controller	Battery	Static Switch	AC/DC rectifier	Choice 3
24.	Full load current of a 10 HP, 3 phase, 440 V induction motor is of the order of	14 A	7 A	28 A	21 A	Choice 1
25.	Which type of power supply is mandatory for a life support system?	PDMS	UPS	Stabilizer	RPS	Choice 2
26.	The length of wire having resistance of 1 ohm/m in a heater rated at 1000 W and 250 V will be	125 m	250 m	62.5 m	500 m	Choice 3
27.	What device has to be added for running three phase 5 HP motor from the available single phase source?	STAR/DELTA starter	Inverter/UPS	DOL Starter	Not possible	Choice 2
28.	Phase information of UPS is of no use during	Voltage dip	Long sags	Interruptions	All of the above	Choice 4
29.	The inductance of a coil can be increased by	Decreasing number of turns	Increasing core length	Using core material of high relative permeability	All of the above	Choice 3
30.	Which colored band denotes the 'Carbon dioxide' content in the fire extinguisher?	Red	Blue	White	Black	Choice 4