Started on	Thursday, 10 June 2021, 11:04:22 AM
State	Finished
Completed on	Thursday, 10 June 2021, 12:34:23 PM
Time taken	1 hour 30 mins
Grade	**19.00** out of 60.00 (**32**%)

Question **1**

Correct

Mark 1.00 out of 1.00

The 1 phase Half Bridge inverter have the output voltage average value equals to ____ if the input is to the inverter is $V_{dc}/2$

a. V_{dc}

b. $V_{dc}/2$ ✔

c. 0

Your answer is correct.

The correct answer is: $V_{dc}/2$

Question **2**

Correct

Mark 1.00 out of 1.00

The mutual inductance between two coils is ..... reluctance of magnetic path.

a. none from the given options

b. directly proportional to

c. independent of

d. inversely proportional to ✔

Your answer is correct.

The correct answer is: inversely proportional to

Question **3**

Correct

Mark 1.00 out of 1.00

Generators work on the principle of production of

- a. dynamically induced emf ✔
- b. statically induced emf
- c. dynamically and statically induced emf

Your answer is correct.

The correct answer is: dynamically induced emf

Question **4**

Correct

Mark 1.00 out of 1.00

The advantage of neutral earthing is:

- a. All of the mentioned ✔
- b. Over voltages due to lightning can be discharged to earth
- c. Freedom from persistent arcing grounds
- d. Simplified design earth fault protection

Your answer is correct.

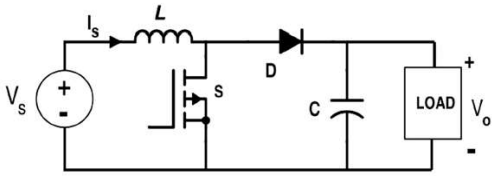
The correct answer is: All of the mentioned

Question **5**

Incorrect

Mark 0.00 out of 1.00

For the conduction of current through diode in given figure the Switch S must be



- a. Conducting
- b. Non conducting
- c. Any conducting and non conducting
- d. Diode never conducts current ✖

Your answer is incorrect.

The correct answer is: Non conducting

Question **6**

Correct

Mark 1.00 out of 1.00

A conductor of length L has current I passing through it, when it is placed parallel to a magnetic field. The force experienced by the conductor will be

- a. BLI^2
- b. B^2LI
- c. BLI
- d. zero ✔

Your answer is correct.

The correct answer is: zero

Question **7**

Not answered

Marked out of 5.00

A core forms a closed magnetic loop of path length 32 cm. Half of this path has a cross-sectional area of 2 cm^2 and relative permeability 800. The other half has a cross-sectional area of 4 cm^2 and relative permeability 400. Find the current needed to produce a flux of 0·4 Wb in the core if it is wound with 1000 turns of wire. Ignore leakage and fringing effects.

Question **8**

Correct

Mark 1.00 out of 1.00

The direction of induced e.m.f. in a conductor (or coil) can be determined by .....

- a. Fleming's left-hand rule
- b. work law
- c. Ampere's law
- d. Fleming's right-hand rule ✔

Your answer is correct.

The correct answer is: Fleming's right-hand rule

Question **9**

Incorrect

Mark 0.00 out of 1.00

For Buck Converter carrying the average load current to be 10Amp , the buck converter works at duty cycle 0.6 ; then the average current through diode in buck converter is _____

- a. 4 A
- b. 8 A
- c. 10 A
- d. 6 A ✖

Your answer is incorrect.

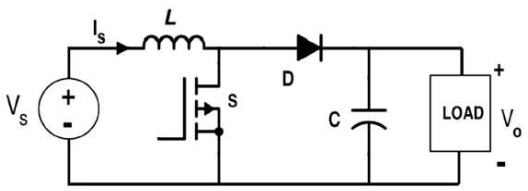
The correct answer is: 4 A

Question **10**

Correct

Mark 1.00 out of 1.00

For the following converter the relation between input and output voltage is



a. $Vo=Vin$

b. $Vo \geq Vin$ ✔

c. $Vo<Vin$

d. $Vo>Vin$

Your answer is correct.

The correct answer is: $Vo \geq Vin$

Question **11**

Incorrect

Mark 0.00 out of 1.00

A 4 pole dc generator is running at 1500 rpm the frequency of current in the armature winding is

a. 150Hz.

b. 200Hz.

c. 100Hz. ✖

d. 50Hz.

Your answer is incorrect.

The correct answer is: 50Hz.

Question **12**

Correct

Mark 1.00 out of 1.00

The direction of rotation of conductor of a DC motor can be determined by

- a. Ampere law
- b. Fleming's left hand rule ✔
- c. Lenz's law
- d. Fleming's right hand rule

Your answer is correct.

The correct answer is: Fleming's left hand rule

Question **13**

Correct

Mark 1.00 out of 1.00

Induction motor operation depends on

- a. rotating magnetic field ✔
- b. either rotating magnetic field or stationary magnetic field
- c. stationary magnetic field

Your answer is correct.

The correct answer is: rotating magnetic field

Question **14**

Incorrect

Mark 0.00 out of 1.00

The % THD in inverter analysis measures

- a. % of harmonic in input waveform ✖
- b. % of Output waveform harmonics
- c. % of Output RMS voltage

Your answer is incorrect.

The correct answer is: % of Output waveform harmonics

Question **15**

Not answered

Marked out of 5.00

The following is the load pattern for consumption of electrical energy by a residential consumer

a) 5 lamps of 40 W each, switched on for 5 hours a day

b) 3 fans of 60 W each, switched on for 12 hours a day

c) 2 heaters of 1000 W, working for 2 hours per day

d) 1 refrigerator of 250 W, working for 12 hours a day

If MSEDCL tariff of electricity consumption is Rs. 3.50 per unit, then what will be the total bill of the consumer for the month of April 2021?

Question **16**

Correct

Mark 2.00 out of 2.00

A magnetic device has a core with cross-section of 1 inch^2 . If the flux in the core is 1 mWb, then flux density (1 inch = 2.54 cm) is

- a. 1.55 T ✔
- b. 0.25 T
- c. 2.5 T
- d. 1.3 T

Your answer is correct.

The correct answer is: 1.55 T

Question **17**

Correct

Mark 1.00 out of 1.00

The operation of fuse depends upon _____ effect of an electric current.

- a. None from given options
- b. Induction
- c. Magnetic
- d. Heating ✔

Your answer is correct.

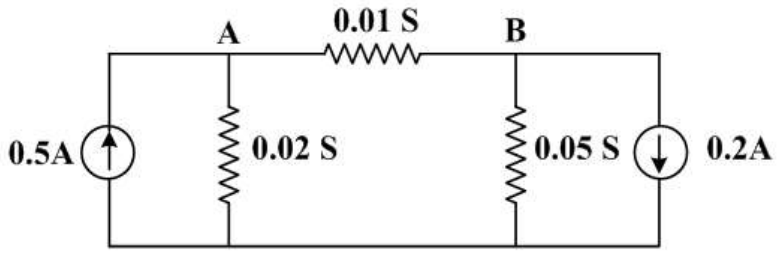
The correct answer is: Heating

Question **18**

Not answered

Marked out of 5.00

In the Figure shown below, find node voltages using nodal method (without source transformation). And hence find the current flowing through 0.01 S conductance.



Question **19**

Not answered

Marked out of 5.00

Two impedances (12+ j5) Ω and (18 + j10) Ω are connected in parallel and the combination is connected across a 200 V, 1-phase, 50 Hz AC supply.

Determine:

1. The admittance of each branch
2. Total admittance of the entire circuit
3. Total current in phasor form
4. Overall power factor
5. The capacitance which when connected in parallel with the original circuit will make the resultant power factor unity

Question **20**

Correct

Mark 1.00 out of 1.00

If field current is decreased in shunt dc motor, the speed of the motor

- a. increases ✔
- b. remains same
- c. decreases

Your answer is correct.

The correct answer is: increases

Question **21**

Incorrect

Mark 0.00 out of 1.00

The capacitor value connected at the output for the buck converter depends on.....

1. Ripple allowed in output voltage
2. The switching frequency
3. The current ripple in output current
4. Diode current rating

- a. 1,2 and 3 are only true
- b. All are true ✖
- c. 2 ,3 are only true
- d. 1, 2 are only true

Your answer is incorrect.

The correct answer is: 1,2 and 3 are only true

Question **22**

Correct

Mark 1.00 out of 1.00

A DC generator without commutator is a.....

- a. Induction motor
- b. DC generator
- c. DC motor
- d. AC generator ✔

Your answer is correct.

The correct answer is: AC generator

Question **23**

Correct

Mark 1.00 out of 1.00

The material which is not used for making filaments in incandescent lamps is ----------

- a. Copper ✔
- b. Tungsten
- c. Carbon
- d. Tantalum

Your answer is correct.

The correct answer is: Copper

Question **24**

Correct

Mark 1.00 out of 1.00

Find the number of poles required, when the frequency is 50Hz and speed of the induction motor is 500 rpm?

- a. 24
- b. 5
- c. 10
- d. 12 ✔

Your answer is correct.

The correct answer is: 12

Question **25**

Correct

Mark 2.00 out of 2.00

A magnetizing field strength (H) of 800 AT/m will produce a flux density of ..... in air.

- a. 1 Wb/m^2
- b. 1 mWb/m^2 ✔
- c. 10 mWb/m^2
- d. 0·5 Wb/m^2

Your answer is correct.

The correct answer is: 1 mWb/m^2

Question **26**

Not answered

Marked out of 5.00

A 3-phase, 400 V, 50 Hz a.c. supply is feeding a 3-phase delta-connected balanced load with each phase having a resistance of 20 ohms and a capacitor of 70 μF in series. Find line current, phase current, active power and reactive power of the circuit.

Question **27**

Correct

Mark 1.00 out of 1.00

Laminated cores, in electrical machines, are used to reduce

- a. All options are correct
- b. Copper loss
- c. Hysteresis loss
- d. Eddy current loss ✔

Your answer is correct.

The correct answer is: Eddy current loss

Question **28**

Not answered

Marked out of 5.00

The efficiency at unity power factor of a 6600/384V, 220 kVA, single phase, 50 Hz transformer is 98 % both at full load and half load. Find

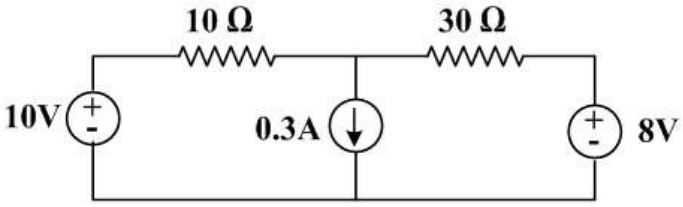
1. full load iron loss
2. full load copper loss
3. iron and copper losses at maximum efficiency
4. load in kVA for maximum efficiency and unity power factor

Question **29**

Not answered

Marked out of 5.00

Use mesh method to determine the currents through each components in the circuit shown below in Figure.



Question **30**

Incorrect

Mark 0.00 out of 1.00

In DC shunt motor if load is increased, the speed

- a. remains constant ✖
- b. increased slightly
- c. reduce slightly
- d. increase proportional

Your answer is incorrect.

The correct answer is: reduce slightly

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RETEST - Basic Electrical Engineering Laboratory Test 1 ►