



SSC JE 2019-20

Electrical Engineering

Mini Mock Challenge
(July 29- July 30 2020)

Questions &
Solutions

1. **Select the word-pair in which two words are related in the same way as are the two words in the following word pair.**

Rooster : Hen

- A. Stallion : Mare
- B. Animal : Dog
- C. Girl : Aunt
- D. Apple : Fruit

Ans. A

Sol. Rooster(Masculine) : Hen(Feminine)

Similarly, Stallion(Masculine) : Mare(Feminine).

Hence, the correct answer is option A.

2. **In the following question, select the odd letter/letters from the given alternatives.**

- A. HS
- B. KP
- C. GR
- D. BY

Ans. C

Sol.

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M
Position value	1	2	3	4	5	6	7	8	9	10	11	12	13
Alphabet	Z	Y	X	W	V	U	T	S	R	Q	P	O	N
Position value	26	25	24	23	22	21	20	19	18	17	16	15	14

pattern follows here:

H + S = 27

K + P = 27

G + R = 25

B + Y = 27

Hence, the correct option is C.

3. **Arrange the given words in the sequence in which they occur in the dictionary.**

- 1) Molecule
- 2) Mosquito
- 3) Mixtures
- 4) Mitigate
- 5) Moderate

- A. 43521
- B. 34512
- C. 43512
- D. 35421

Ans. C

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Sol. As per the dictionary order, the arrangement will be:

- 4. Mitigate
- 3. Mixtures
- 5. Moderate
- 1. Molecule
- 2. Mosquito

Thus the correct sequence is 43512.

Hence, option C is correct.

4. In a code language **APPLE** is written as **EGGCI**. How will **NOTEBOOK** be written as in that language?

- A. EFBFCFEK
- B. EFBFCEFB
- C. EFBICFFB
- D. EFBIFFFB

Ans. D

Sol. **Here the logic is :** +4 is added to the alphabets having single digit place value, and the sum of the digits is considered in case of alphabets having two digits place value.

(1)A → (1+4) = 5 = Which is the place value of E.

(16)P → (1+6) = 7 = Which is the place value of G.

(16)P → (1+6) = 7 = Which is the place value of G.

(12)L → (1+2) = 3 = Which is the place value C.

(5)E → (5+4) = 9 = Which is the place value of I.

Similarly, NOTEBOOK is coded as EFBIFFFB.

Hence, option D is the correct answer.

5. **In the following question, select the missing number from the given alternatives.**

55, 49, 45, 43, ?, 45

- A. 43
- B. 55
- C. 41
- D. 49

Ans. A

Sol. Given series follows the pattern given below:

$$9 \times 6 + 1^2 = 55$$

$$9 \times 5 + 2^2 = 49$$

$$9 \times 4 + 3^2 = 45$$

$$9 \times 3 + 4^2 = 43$$

$$\mathbf{9 \times 2 + 5^2 = 43}$$

$$9 \times 1 + 6^2 = 45$$

Hence, the correct answer is option A.



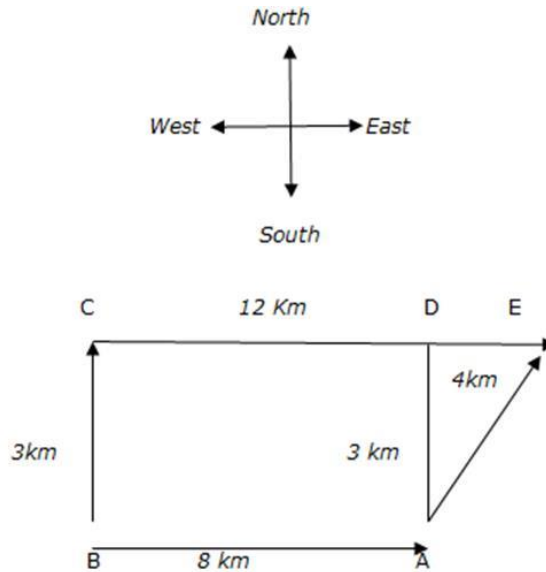
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6. Peter walked 8 kms west and turned right and walked 3 kms. The again he turned right and walked 12 kms. How far is he from the starting point?
- A. 7
 - B. 8
 - C. 4
 - D. 5

Ans. D

Sol.



A is the starting point and we need to find AE

$$AE = \sqrt{AD^2 + DE^2} = \sqrt{3^2 + 4^2}$$

$$\sqrt{9+16} = \sqrt{25} = 5$$

Hence, option D is the right answer.

7. In the following question, select the missing number from the given alternatives.

7	9	6
4	5	7
2	3	?
9	11	9

- A. 4
- B. 5
- C. 7
- D. 8

Ans. A

Sol. In every column, we get the fourth number by adding first and second number and then subtracting the result from the third number.

$$1^{\text{st}} \text{ Column: } (7 + 4) - 2 = 9$$

$$2^{\text{nd}} \text{ Column: } (9 + 5) - 3 = 11$$

$$3^{\text{rd}} \text{ Column: } (6 + 7) - ? = 9$$

$$\Rightarrow ? = 4$$

Hence, option A is the correct answer.

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8. From the given alternatives, select the word which cannot be formed using the letters of the given word?

EMBOSSMENT

- A. BOSS
- B. TOMB
- C. STEM
- D. MATS

Ans. D

Sol. There is no "A" letter in the word "EMBOSSMENT". Hence, the word "MATS" cannot be formed using the letters of the given word.

Hence, option D is the correct answer.

9. In a certain code language, '+' represents 'x', '-' represents '+', 'x' represents '÷' and '÷' represents '-'. What is the answer to the following question?

$$50 + 3 \div 125 \times 5 - 25 = ?$$

- A. 31
- B. 17
- C. 150
- D. 55

Ans. C

Sol. Using the proper symbols, we get

$$50 \times 3 - 125 \div 5 + 25$$

Now applying BODMAS rule,

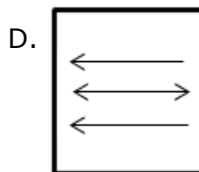
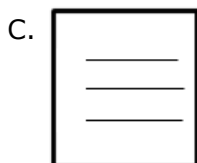
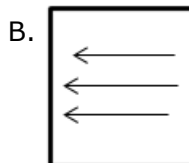
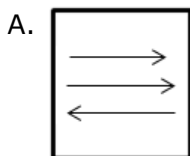
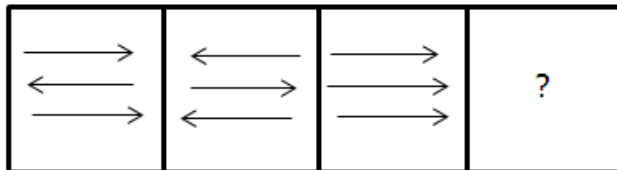
$$50 \times 3 - 125 \div 5 + 25$$

$$= 150 - 25 + 25$$

$$= 150$$

Hence, option C is the correct answer.

10. Select the figure that will come next in the following figure series.



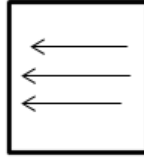
Ans. B

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Sol. After carefully observing the figures given in the question, it is very clear that the answer figure(B) will be the next figure.

Logic- 2nd figure is the mirror image of 1st figure, similarly, 4th figure is the mirror image of 3rd figure.



Hence, the correct answer is option B.

11. Which of the following newspapers was edited by Dadabhai Naoroji?

- | | |
|-------------------|-----------------|
| A. Samvad Kaumudi | B. Shom Prakash |
| C. Rast Goftar | D. Mahratta |

Ans. C

Sol. • **Rast Goftar newspaper was edited by Dadabhai Naoroji.**

- It was an **Anglo-Gujarati paper** operating in Bombay that was **started in 1854.**
- He is also known as the "**Grand Old Man of India**" and "**Unofficial Ambassador of India**".

12. Age of Consent Act, 1891 was brought about by efforts of which of the following leader?

- | | |
|--------------------|----------------------|
| A. Dadabhai Naroji | B. Behramji Malabari |
| C. Bhikaji Cama | D. Pherozshah Mehta |

Ans. B

Sol. • Age of Consent Act, 1891 was brought about by efforts of Behramji Malabari.

- In 1885 a girl named Rukhmabai was ordered to return to husbands home or to be jailed, Malabari popularise this case through editorials and showed the dark side of social life of female and this led to passing of Age of Consent Act, 1891.
- This act rose the age of consent for sexual intercourse for all female from ten to twelve and its violation would be considered as rape.
- Behramji Malabari also edited the 'Indian Spectator' for a long period. He also wrote collection of poems named 'The Indian Muse in English Garb'.

13. Veld grasslands are located in which of the following country?

- | | |
|-----------------|--------------|
| A. New Zealand | B. Australia |
| C. South Africa | D. USA |

Ans. C

Sol. Veld grasslands are found in South Africa.

- Veld grasslands come under Temperate Grasslands.
- Temperate grasslands are found in the regions with temperate and semi arid to semi humid climates.



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- Temperate grasslands have hot summers and cold winters and here rainfall is moderate.
- Other temperate grasslands- The Puszta of Hungary, The Pampas of Argentina and Uruguay, The Steppes of the former Soviet Union.

14. Which of the following is/are the session/sessions of our Parliament?

- A. Monsoon Session
- B. Winter Session
- C. Budget Session
- D. All of these

Ans. D

Sol. • Monsoon Session, Winter Session and Budget Session are the sessions of our Parliament.

- Budget Session is from Jan-Feb to May.
- Monsoon Session is from July to Aug-Sep.
- Winter Session is from November to December.

15. Dinesh Goswami committee is related to which of the following?

- A. Parliamentary proceedings
- B. Electoral reforms
- C. Inter State disputes
- D. Labour Reforms

Ans. B

Sol. Dinesh Goswami committee was related to **Electoral reforms**.

* The major recommendations were as follows:

- a) Time limit for bye-elections.
- b) Increase in deposits from independents.
- c) A check on advertisements on new papers and strengthening of the election commission.

16. Who is known as the father of Internet?

- A. Robert E. Kahn
- B. Tim Berners-Lee
- C. Larry page
- D. Vint Cerf

Ans. D

Sol. • **Vint Cerf** is known as a "**Father of the Internet**".

- He is the co-designer of the **Transmission Control Protocol and Internet Protocol**, or TCP/IP.
- He is known as architecture of the Internet.
- He has served as vice president and chief Internet evangelist for Google.
- Tim Berners-Lee invented the **World Wide Web**.

17. What is phase relationship between displacement and velocity in SHM?

- A. Velocity leads displacement by 90°
- B. Velocity lags displacement by 90°
- C. Velocity leads displacement by 180°
- D. Velocity lags displacement by 180°

Ans. A



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Sol. • Velocity leads displacement by 90° .

• **Simple harmonic motion** is a periodic motion or oscillation where the restoring force is directly proportional to the displacement and acts in the direction opposite to that of displacement.

18. World Soil day is celebrated on?

A. 6th April

B. 7th August

C. 1st October

D. 5th December

Ans. D

Sol. * World Soil day is celebrated on **5th December**.

* The Soil day is recognised on 5th December by **Food and Agriculture Organisation of UN**.

* The main aim is to communicate message on importance of soil quality for food security, healthy Ecosystem and human well being.

* Theme of 2019 soil day was '**Stop Soil Erosion, Save Our Future**'.

* Sustainable Development Goals 2, 3, 12 and 15 are related to soil conservation and soil utilisation.

19. Which Indian state won the 'World Habitat Award'?

A. Jharkhand

B. Odisha

C. Tamil Nadu

D. Maharashtra

Ans. B

Sol. • **Odisha** was awarded the '**World Habitat Award**'.

• Odisha was awarded the 'World Habitat Award' for **Jaga Mission**.

• The award was given by the World Habitat, a UK based organization.

• Jaga Mission is a slum transforming into liveable habitats mission.

• **Jaga Mission** is also known as Odisha Liveable Habitat Mission.

20. Who among the following has assumed charge as Punjab's first woman chief secretary on 26th June 2020?

A. Vini Mahajan

B. Mugdha Sinha

C. Smita Sabharwal

D. Punita Arora

Ans. A

Sol. * **Senior IAS officer Vini Mahajan** assumed charge as Punjab's first woman chief secretary on 26th June 2020.

* She has replaced **Karan Avtar Singh**.

* She has become the **first Woman Chief Secretary of Punjab**.

* She is a **1987-batch IAS officer**.



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21. Which of the following distance relay is used for long transmission line?
- A. Mho relay
 - B. Reactance relay
 - C. Impedance relay
 - D. None of the above

Ans. A

Sol. The relay can be expressed as:

Mho relay → long transmission line

Reactance relay → short transmission line

Impedance relay → medium transmission line

22. The rate of rise of re-striking voltage (RRRV) is dependent upon
- A. resistance of the system only
 - B. inductance of the system only
 - C. capacitance of the system only
 - D. inductance and capacitance of system

Ans. D

Sol. $RRRV = \frac{dV}{dt} = \frac{V_m}{\sqrt{LC}} \sin \frac{t}{\sqrt{LC}}$

i.e. RRRV depends on inductance and capacitance of the system.

23. Find the circuit element for given voltage and current equation and also its value.

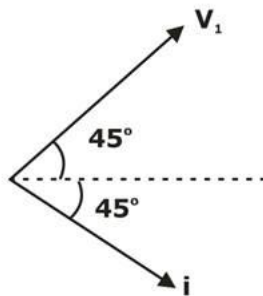
$v(t) = 9 \sin (t + 45^\circ) \text{ V}$

$i(t) = 3 \sin (t - 45^\circ) \text{ A}$

- A. Capacitor, 3F
- B. Inductor, 3H
- C. Inductor, 1H
- D. Capacitor, 1F

Ans. B

Sol. By drawing phasors of voltage and current:



Current lags the voltage by 90°:

Hence it is inductor

$$X_L = \frac{V}{I} = \frac{9}{\frac{3}{\sqrt{2}}} = 3$$

$$X_L = \omega L = 3$$

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$$L = \frac{3}{\omega}$$

$$L = \frac{3}{1} \text{ (as } \omega = 1 \text{ rad/sec)}$$

$$L = 3H$$

24. The daily energy produced in thermal power station is 480 MWh at a load factor of 0.5. What is the maximum demand of the station (in MW)?
- A. 40
B. 80
C. 60
D. 50

Ans. A

Sol. As we know that load factor is given by

$$\text{Load factor} = \frac{\text{Average demand}}{\text{Maximum demand}}$$

$$\text{Now average demand (MW)} = 480/24 = 20 \text{ MW}$$

$$\text{And thus, } 0.5 = \frac{20}{\text{Maximum demand}}$$

$$\text{Maximum demand} = 40 \text{ MW}$$

25. Two charges are placed at a distance apart. Now, if a glass slab is inserted between them, then the force between the charges will
- A. Decrease
B. Increase
C. Remain same
D. Reduce to zero

Ans. A

Sol. For glass slab, $\epsilon_r > 1$

$$F' = \frac{F}{\epsilon_r}$$

Therefore, force decreases.

26. The current gain of common base amplifier is
- A. more than 1
B. less than 1
C. equal to 1
D. greater than 100

Ans. B

Sol. The current gain of a transistor in CB configuration is defined as the ratio of output current or collector current to the input current or emitter current.

$$\alpha = \frac{I_C}{I_E}$$

The current gain of a transistor in CB configuration is less than unity. The typical current gain of a common base amplifier is 0.98.



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27. A CRT with parallel deflection plate is 40 cm long and 10 mm apart have $E_a = 1000 \text{ V}$. Screen is 50 cm apart from center of parallel plates. Calculate the input voltage required to deflect the beam 5 cm.
- A. 2.5 V
B. 5 V
C. 3 V
D. 4 V

Ans. B

Sol. Given,

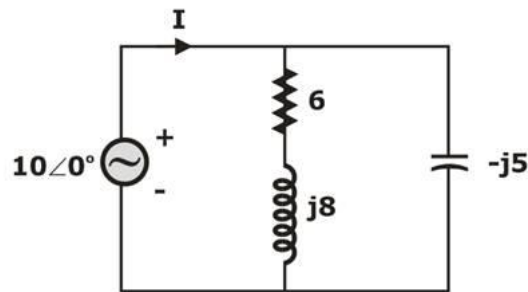
$E_a = 1000 \text{ V}$ and $I_d = 0.4 \text{ m}$, $d = 0.01 \text{ m}$, $L = 0.5 \text{ m}$ and $E_d = ?$
we know that,

$$D = \frac{L I_d E_d}{2dE_a}$$

$$E_d = \frac{2dE_a D}{L I_d}$$

$$E_d = \frac{2 \times 0.01 \times 1000 \times 0.05}{0.5 \times 0.4} = 5 \text{ V}$$

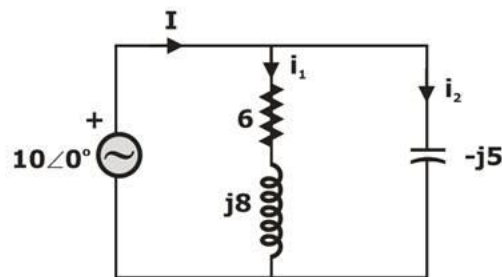
28. For the a.c circuit given below, what is the value of I?



- A. 0.6 A
B. $j1.2 \text{ A}$
C. $0.6 - j1.2 \text{ A}$
D. $0.6 + j1.2 \text{ A}$

Ans. D

Sol. Consider the circuit below:



$$\begin{aligned} I &= i_1 + i_2 \\ &= \frac{10\angle 0^\circ}{6 + j8} + \frac{10\angle 0^\circ}{-j5} \\ &= 0.6 - j0.8 + j2 \end{aligned}$$



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$$I = 0.6 + j1.2 \text{ A}$$

29. The reluctance of a magnetic circuit is relative..... permeability of the material comprising the circuit.
- A. directly proportional to
B. inversely proportional to
C. independent of
D. none of the above

Ans. B

Sol. The reluctance of the magnetic circuit is given by:

$$\mathfrak{R} = \frac{l}{\mu A}$$

$$\mathfrak{R} \propto \frac{l}{\mu}$$

30. Which of the following is used to measure value of quality factor between 1 and 10?
- A. Anderson's Bridge
B. Maxwell's Inductance Bridge
C. Hay's Bridge
D. Wheatstone Bridge

Ans. B

Sol. Anderson bridge is used to measure the inductance of low Q coil,
Maxwell inductance bridge is used to measure the inductance of medium Q coil
Hay's bridge is used for high Q coil.

For $1 < Q < 10$, considered as medium Q coil.

31. The d.c. series motor should always be started with load because
- A. at no load, it will rotate at dangerously high speed.
B. it will fail to start.
C. it will not develop high starting torque.
D. all are true.

Ans. A

Sol. For DC series motor $\phi \propto I_a$

At no-load $I_a = 0$

$$\phi = 0$$

$$N = \frac{V - I_a R_a}{K\phi}$$

For $\phi \rightarrow 0$

$$N \rightarrow \infty$$

So the no load speed of DC series motor is very high.

32. Series capacitor compensation is used in transmission lines to
- A. Reduce corona loss
B. Compensate Ferranti effect



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- C. Reduce the voltage profile
- D. Improve power transfer capability

Ans. D

Sol. $P = \frac{EV}{X} \sin \delta$

By using series capacitor compensation X will decrease & P will increase.

33. A balanced three-phase, 50 Hz voltage is applied to a 3 phase, 4 pole, induction motor. When the motor is delivering rated output, the slip is found to be 0.05. The speed of the rotor m.m.f. relative to the rotor structure is

- A. 1500 RPM
- B. 1425 RPM
- C. 25 RPM
- D. 75 RPM

Ans. D

Sol. Speed of rotor mmf with respect to rotor structure is slip-speed.

$$N_s = 120f / P = 120 \times 50 / 4 = 1500 \text{ RPM}$$

$$N = N_s (1 - s) = 1500 (1 - 0.05) = 1425$$

$$\therefore \text{relative speed} = 1500 - 1425 = 75 \text{ RPM}$$

34. A 50 Hz, 17.32 kV generator is connected to a power system. The system reactance and capacitance per phase are: 10 mH and 0.2 mF, respectively. What is the maximum voltage across the contacts of the circuit breaker at an instant when it passes through zero?

- A. 28.28 kV
- B. 29.28 kV
- C. 30.28 kV
- D. 31.28 kV

Ans. A

Sol. Maximum value of restriking voltage
= 2 × peak value of the system voltage

$$= 2 \times \frac{17.32}{\sqrt{3}} \times \sqrt{2}$$

$$= 28.28 \text{ kV}$$

35. What will happen if field winding is disconnected accidentally from rotating dc shunt motor?

- A. motor suddenly off
- B. motor will run normally
- C. motor will run dangerously
- D. any of the above

Ans. C

Sol. we know that the relation between induced EMF and speed is

$$E = K_m \phi \omega$$

$$\text{Thus } \frac{E}{K_m \phi} = \omega$$

Now when field is disconnected i.e. if

$$\phi = 0 \text{ then } \omega = \infty$$



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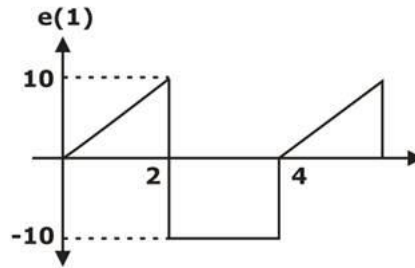
Thus, its speed increase to a dangerous value if field disconnected suddenly.

36. A three-phase synchronous motor will have
- A. One slip-ring
 - B. Two sliprings
 - C. No slip-rings
 - D. Three sliprings

Ans. D

Sol. Number of slip-rings used is equal to the number of phases of winding.
Hence, A three-phase synchronous motor will have three slip rings.

37. The RMS value of the period waveform $e(t)$ shown in figure:



- A. 5.7
- B. 9.6
- C. 10
- D. 8.165

Ans. D

Sol. Period of the waveform is $T=4$

$$e(t) = \begin{cases} 5t, & 0 < t < 2 \\ -10, & 2 < t < 4 \end{cases}$$

RMS value is:

$$\begin{aligned} E_{rms} &= \sqrt{\frac{1}{T} \int_0^T e^2 dt} \\ &= \sqrt{\frac{1}{4} \left[\int_0^2 (5t)^2 dt + \int_2^4 (-10)^2 dt \right]} \\ &= \sqrt{\frac{1}{4} \left[25 \cdot \frac{t^3}{3} \right]_0^2 + 100t \Big|_2^4} \\ &= \sqrt{\frac{1}{4} \left(\frac{200}{3} + 200 \right)} = 8.165 \end{aligned}$$

38. If capacitor is energized by a symmetrical square wave current source, then the steady state voltage across the capacitor will be

- A. Step function
- B. Impulse function
- C. Square wave
- D. Triangular wave

Ans. D

Sol. $I_c = C \frac{dV_c}{dt}$, current across capacitor



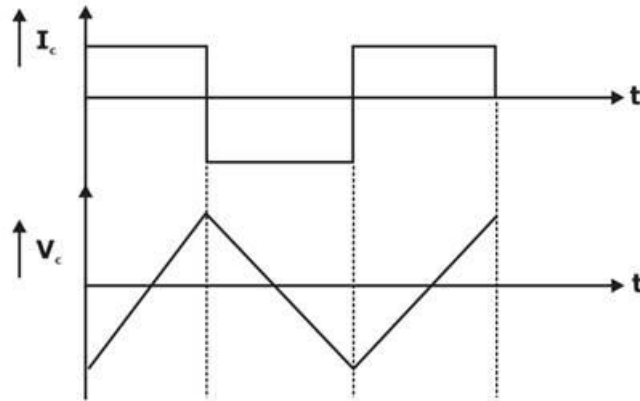
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$$\therefore V_c = \frac{1}{C} \int I_c dt$$

$\therefore I_c =$ square wave nature

$V_c =$ Triangular wave nature



39. For a dc machine shunt resistance and armature resistance values are

- A. high and high
- B. high and low
- C. low and low
- D. low and high

Ans. B

Sol. For a DC machine, shunt resistance and armature resistance value are high and low.

40. The incremental fuel costs for two generating units G_1 and G_2 are given by $IC_1 = 25 + 0.2 PG_1$ and $IC_2 = 32 + 0.2 PG_2$ where PG_1 and PG_2 are real powers generated by the units. The economic allocation for a total load of 250 MW, neglecting transmission loss, is given by

- A. $PG_1 = 142.5$ MW and $PG_2 = 107.5$ MW
- B. $PG_1 = 109.75$ MW and $PG_2 = 1140.25$ MW
- C. $PG_1 = 125$ MW and $PG_2 = 125$ MW
- D. $PG_1 = 100$ MW and $PG_2 = 150$ MW

Ans. A

Sol. $PG_1 + PG_2 = 250$ MW...(1)

For economic operation,

$$IC_1 = IC_2$$

$$\Rightarrow 25 + 0.2 PG_1 = 32 + 0.2 PG_2 \dots(2)$$

From equation (1) and (2),

$$PG_1 = 142.5$$
 MW

$$\text{and } PG_2 = 107.5$$
 MW

Hence, option (a) is correct.

41. A semiconductor is formed by _____ bonds.

- A. metallic
- B. Covalent
- C. Ionic
- D. None of these

Ans. B

Sol. N-type semiconductor: When a small amount of pentavalent donor atoms (e.g., phosphorus (P) and Arsenic(As)) is added, a silicon atom in the lattice may be replaced by a donor atom with four of its valence electrons forming the covalent bounds and one extra free electron.

42. The capacitance of a conducting sphere of radius r with total charge q uniformly distributed on its surface is
- A. Proportional to q/r
 - B. Independent of r
 - C. Independent of q
 - D. Proportional to qr

Ans. C

Sol. The capacitance of spherical surface of radius R with uniformly distributed charge can be expressed as:

$$C = 4\pi\epsilon_0 R$$

Hence, the capacitance of a conducting sphere of radius r with total charge q uniformly distributed on its surface is independent of charge.

43. Which one of the following is the CORRECT expression for voltmeter sensitivity of PMMC type instruments?

- A. $\frac{R_m + R_s}{V}$
- B. $\frac{R_m R_s}{V}$
- C. $\frac{R_m + R_s}{V^2}$
- D. $\frac{R_m R_s}{V^2}$

Ans. A

Sol. The expression for the voltage sensitivity for the PMMC type instruments is

$$S = \frac{R_m + R_{sh}}{V}$$

44. A 3 phase – 110 V motor has a power factor of 0.5. The two wattmeters connected measure the total input of 50 kW. Calculate the reading (in kW) of each wattmeter.
- A. 0, 150
 - B. 100, 50
 - C. 0, 50
 - D. 50, 50

Ans. C

Sol. In two wattmeter method

$$\tan \phi = \frac{\sqrt{3}(W_1 - W_2)}{W_1 + W_2}$$

Power factor =

$$\cos \phi = 0.5$$

$$\phi = \cos^{-1}(0.5) = 60^\circ$$

$$\tan 60^\circ = \frac{\sqrt{3}(W_1 - W_2)}{W_1 + W_2}$$



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$$W_2 = 0,$$
$$W_2 + W_1 = 50 \text{ KW}$$
$$W_1 = 50 \text{ KW}$$

45. Which of the statement is TRUE about megger?
- A. Megger is used for the measurement of voltage.
 - B. Megger is used for the measurement of current.
 - C. Megger is used for the measurement of insulation resistance.
 - D. Megger is used for the measurement of breakdown voltage of insulation.

Ans. C

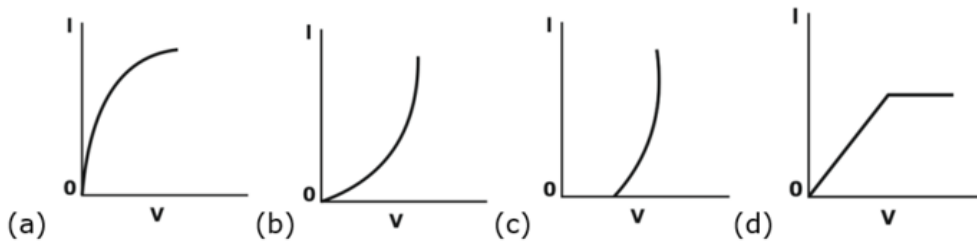
Sol. Megger is used to measure high resistance like insulation resistance.

46. If there is a break in 220/100 V auto transformer in the windings which is common to both HV as well as LV sides, then the output voltage on LV side will be:
- A. 110 V
 - B. 220V
 - C. zero
 - D. $100\sqrt{2}V$

Ans. B

Sol. When there is an open circuit in common winding then supply will directly connect to output. So, supply voltage is the LV voltage.

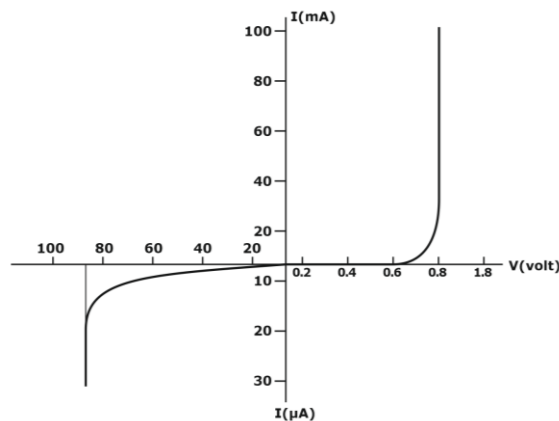
47. In the figure the forward characteristics of a silicon diode are represented by



- A. (a)
- B. (b)
- C. (c)
- D. (d)

Ans. C

Sol. The diode characteristics is given below.



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When we apply the positive voltage to the P side and negative voltage to the N side. Diode is in forward bias condition and after the cut in voltage its start conducting.

48. As the load factor of a power plant increases, the cost per kWh of energy generated
- A. increases
 - B. decreases
 - C. may increase or decrease
 - D. remains the same

Ans. B

Sol. Higher load factor means lesser maximum demand. The station capacity is so selected that it must meet the maximum demand. Lower maximum demand means lower capacity of the plant which reduces the cost of plant.

49. The most common type of fault is:
- A. Single phase to ground
 - B. Phase to phase
 - C. Two phase to ground
 - D. Three phase to ground

Ans. A

Sol. The list of fault with occurrence of fault decreasing from left to right is:

SLG → L-L → L-L-G → L-L-L-G

Hence, option A is correct.

50. A generating station supplies the following loads 15000KW, 12000KW, 8500KW, 6000KW and 450KW. The station has maximum demand of 22000KW. Calculate the diversity factor.
- A. 1.91
 - B. 0.52
 - C. 0.68
 - D. 1.34

Ans. A

Sol. Diversity factor = $\frac{\text{Sum of individual demand of consumers}}{\text{Max demand of station}}$

$$= \frac{15000 + 12000 + 85000 + 6000 + 450}{22000}$$

$$= 1.9068$$

$$\approx 1.91$$



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