

Alternator, Synchronous Motor & MG Set

1). What is the formula to calculate the emf equation of an alternator?

- (A) $E = 4.44 K_d K_c T \phi m$
- (B) $E = 2.22 K_d K_c F \phi m$
- (C) $E = 4.44 K_d K_c FT \phi m$
- (D) $E = 1.11 K_d K_c F \phi m$

Correct Answer : C

2). What is the voltage regulation in percentage if the load is removed from an alternator, the voltage rises from 480V to 660V.

- (A) 0.272
- (B) 0.325
- (C) 0.375
- (D) 0.385

Correct Answer : C

3). Which is represented by the 'V' curve of the synchronous motor?

- (A) Relation between the field current and power factor
- (B) Relation between the applied voltage and load current
- (C) Relation between the load current and power factor
- (D) Relation between the armature current and field current

Correct Answer : D

4). Which converting device can be over loaded?

- (A) Rectifier unit
- (B) Rotary converter
- (C) Motor generator set
- (D) Mercury arc rectifier

Correct Answer : A

5). How to compensate the de-magnetizing effect due to armature reaction in an alternator?

- (A) Reducing the speed of alternator
- (B) Reducing the field excitation current
- (C) Increasing the field excitation current
- (D) Increasing the speed of alternator

Correct Answer : C

6). What is the function of inverter?

- (A) Convert A.C to D.C
- (B) Convert D.C to A.C
- (C) Smoothing A.C sine wave
- (D) Convert pulsating DC into pure D.C

Correct Answer : B

7). Which acts as a both inverter and converter?

- (A) Metal rectifier
- (B) Mercury arc rectifier
- (C) Semi conductor diode
- (D) Synchronous converter

Correct Answer : D

8). Why the synchronous motor fails to run at synchronous speed?

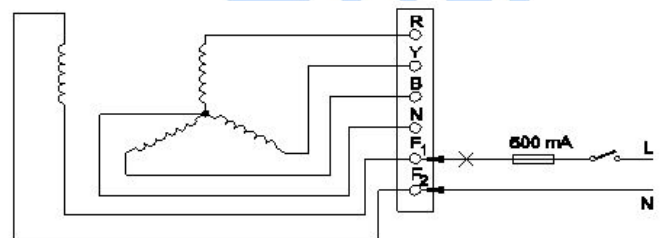
- (A) Insufficient excitation
- (B) Defective pony motor
- (C) Open in damper winding
- (D) Short in damper winding

Correct Answer : A

9). What is the cause for hunting effect in an alternators?

- (A) Due to over load
- (B) Running without load
- (C) Running with fluctuation of speed
- (D) Due to continuous fluctuation in load

Correct Answer : D



10). Which test is conducted in an alternator as shown in the diagram?

- (A) Continuity test of the field winding
- (B) Continuity test of the main winding
- (C) Insulation test between the main winding and frame

(D) Insulation test between the field winding and frame

Correct Answer : A

11). Which rule is used to find the direction of induced emf in an alternator?

- (A) Cork screw rule
- (B) Right hand palm rule
- (C) Fleming's left hand rule
- (D) Fleming's right hand rule

Correct Answer : D

12). Which formula is used to calculate the percentage voltage regulation in an alternator?

- (A) $V_{FL} - V_{NL}/V_{FL} * 100$
- (B) $V_{NL} - V_{FL}/V_{FL} * 100$
- (C) $V_{NL} - V_{FL}/V_{NL} * 100$
- (D) $V_{FL} - V_{NL}/V_{NL} * 100$

Correct Answer : B

13). Which converter is having the high efficiency?

- (A) SCR converter
- (B) Rotary converter
- (C) Motor generator set
- (D) Mercury arc rectifier

Correct Answer : A

14). What will happen if the field excitation of an alternator is increased?

- (A) Prevents the demagnetizing effect
- (B) Generates less voltage
- (C) Prevents the short circuit fault
- (D) Increase the demagnetizing effect

Correct Answer : A

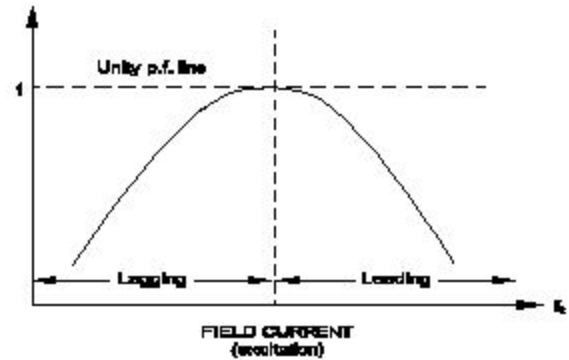
15). What is the function of damper windings in synchronous motor at starting?

- (A) Maintain the power factor
- (B) Excite the field winding
- (C) Maintain the constant speed
- (D) Start the synchronous motor

Correct Answer : D

16). What is an application of the synchronous motor?

- (A) In conveyers
- (B) In cranes



- (C) In elevators
- (D) As the power factor corrector

Correct Answer : D

17). What is the name of curve of the synchronous motor as shown in the figure?

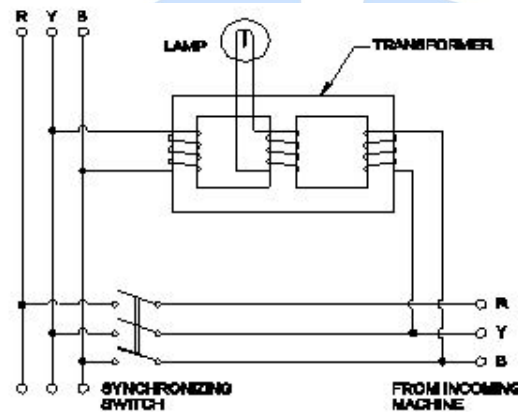
- (A) V - curve
- (B) Inverted V - curve
- (C) Power factor curve
- (D) Characteristic curve

Correct Answer : B

18). what is the pitch factor (KP) for a winding having 36 stator slots 4 pole with angle (α) is 30° in an alternator?

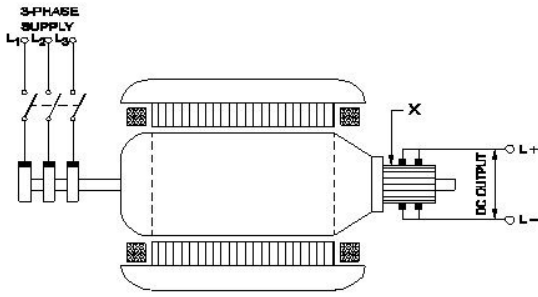
- (A) 0.942
- (B) 0.965

- (C) 0.978
- (D) 0.985



Correct Answer : B

19). Which method of the parallel operation of alternator is shown in the diagram?



23). How the synchronous motor is used as a synchronous condenser?

- (A) By increasing the motor load
- (B) By increasing the field excitation
- (C) By increasing the stator input voltage
- (D) By decreasing the field excitation

Correct Answer : B

- (A) Moving iron type synchroscope method
- (B) Western type synchroscope method
- (C) Dark lamp method
- (D) Dark & Bright lamp method

Correct Answer : B

20). What is the function of the part marked as 'X' of the rotary converter as shown in the figure?

- (A) Converts AC into DC
- (B) Reduces voltage drop

24). How alternators are rated?

- (A) KVA
- (B) KW
- (C) MW
- (D) KV

Correct Answer : A

25). What is the name of the converter as shown in the figure?

- (A) Metal rectifier
- (B) Rotary converter
- (C) Mercury arc rectifier
- (D) Motor-Generator set

Correct Answer : B

- (C) Collects the alternating current
- (D) Collects the direct current

Correct Answer : D

21). What is the advantage of motor generator set?

- (A) Noiseless
- (B) High efficiency
- (C) Low maintenance required
- (D) DC output voltage can be easily controlled

Correct Answer : D

22). Which causes to reduce the terminal voltage of an alternator, if the load increases?

- (A) Field resistance
- (B) Field current
- (C) Field reactance
- (D) Armature resistance

Correct Answer : D

