

UNIT -1

D.C. Generators

Q1. The basic principle of a DC generator is

- A. Ohm's law
- B. Faraday's law of electromagnetic induction
- C. Lenz's law
- D. Kirchhoff's law

Answer: Faraday's law of electromagnetic induction

Q2. The function of the commutator in a DC generator is to

- A. Increase voltage
- B. Convert AC induced in armature into DC
- C. Reduce speed
- D. Store energy

Answer: Convert AC induced in armature into DC

Q3. The rotating part of a DC generator is the

- A. Yoke
- B. Pole core
- C. Armature
- D. Brush

Answer: Armature

Q4. The stationary part that provides magnetic field is the

- A. Commutator
- B. Field system
- C. Brush gear
- D. Armature

Answer: Field system

Q5. The EMF equation of a DC generator is

- A. $E = PZN / (60A)$
- B. $E = (P\Phi ZN) / (60A)$
- C. $E = VIR$
- D. $E = 2\pi fL$

Answer: $E = (P\Phi ZN) / (60A)$

Q6. In lap winding, number of parallel paths is

- A. 2
- B. Equal to number of poles
- C. Half the poles
- D. Twice the poles

Answer: Equal to number of poles

Q7. In wave winding, number of parallel paths is

- A. P
- B. 4
- C. 2
- D. $P/2$

Answer: 2

Q8. Simplex winding means

- A. One set of windings
- B. Two sets
- C. Three sets
- D. Four sets

Answer: One set of windings

Q9. Multiplex winding means

- A. Only lap winding
- B. Only wave winding
- C. More than one set of windings
- D. Single coil

Answer: More than one set of windings

Q10. Lap winding is preferred for

- A. High voltage
- B. High current low voltage
- C. Low current
- D. Portable machines

Answer: High current low voltage

Q11. Wave winding is preferred for

- A. High current
- B. High voltage low current
- C. Battery charging only
- D. Traction

Answer: High voltage low current

Q12. Armature reaction is

- A. Heating
- B. Effect of armature flux on main field
- C. Mechanical vibration
- D. Bearing friction

Answer: Effect of armature flux on main field

Q13. Cross-magnetizing AT causes

- A. Flux distortion
- B. Increase in speed
- C. No effect
- D. Brush wear only

Answer: Flux distortion

Q14. Demagnetizing AT causes

- A. Reduction in main flux
- B. Increase in flux
- C. No change
- D. Higher efficiency

Answer: Reduction in main flux

Q15. Good commutation means

- A. High voltage
- B. Sparkless commutation
- C. Low speed
- D. High current

Answer: Sparkless commutation

Q16. Interpoles are used to

- A. Reduce losses
- B. Improve commutation
- C. Increase speed
- D. Reduce weight

Answer: Improve commutation

Q17. Separately excited generator gets field current from

- A. Armature
- B. External source
- C. Load
- D. Residual magnetism

Answer: External source

Q18. Self-excited generator gets field current from

- A. Battery
- B. Its own generated EMF
- C. Transformer
- D. Grid

Answer: Its own generated EMF

Q19. Residual magnetism is necessary for

- A. Cooling
- B. Voltage build-up
- C. Speed control
- D. Load sharing

Answer: Voltage build-up

Q20. Critical field resistance is

- A. Minimum field resistance
- B. Maximum field resistance for voltage build-up
- C. Armature resistance
- D. Brush resistance

Answer: Maximum field resistance for voltage build-up

Q21. Critical speed is

- A. Maximum speed
- B. Minimum speed for voltage build-up
- C. Rated speed
- D. Synchronous speed

Answer: Minimum speed for voltage build-up

Q22. Shunt field winding has

- A. Low resistance
- B. High resistance
- C. Zero resistance
- D. Variable resistance

Answer: High resistance

Q23. Series field winding has

- A. High resistance
- B. Low resistance
- C. Infinite resistance
- D. No resistance

Answer: Low resistance

Q24. A shunt generator is used for

- A. Welding
- B. Battery charging and lighting
- C. Electroplating only
- D. Traction

Answer: Battery charging and lighting

Q25. A series generator is mainly used as

- A. Booster
- B. Alternator
- C. Motor starter
- D. UPS

Answer: Booster

Q26. Compound generator has

- A. Only shunt field
- B. Only series field
- C. Both shunt and series fields
- D. Permanent magnets

Answer: Both shunt and series fields

Q27. Cumulative compound generator has

- A. Opposing field
- B. Series field aiding shunt field
- C. No series field
- D. No shunt field

Answer: Series field aiding shunt field

Q28. Differential compound generator has

- A. Series field aiding shunt field
- B. Series field opposing shunt field
- C. Equal fields
- D. No field

Answer: Series field opposing shunt field

Q29. Brushes are made of

- A. Copper
- B. Carbon
- C. Steel
- D. Aluminium

Answer: Carbon

Q30. Yoke is made of

- A. Wood
- B. Cast steel
- C. Plastic
- D. Rubber

Answer: Cast steel



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