

QUIZ – ANSWER KEY

QUIZ NO: 87

TOPIC: ELECTRICAL ENGINEERING

DATE: 07/07/2022

1. In a dc machine 4 pole lap winding is used. The number of parallel paths are?

[A] 2

[B] 4

[C] 8

[D] 1

Answer: B

Explanation:-

In lap winding number of parallel paths = number of poles = 4.

For Wave winding it will be equal to 2.

2. In a lap winding dc machine number of conductors are 100 and number of parallel paths are 10. Find the average pitch

[A] 10

[B] 100

[C] 50

[D] 1

Answer: A ;

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Explanation:-

Average pitch = (back pitch + front pitch)/2 = Z/P { Z/P = 100/10 = 10 }

(∴ front pitch = $Y_b + 1$, back pitch = $Y_b - 1$)

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3. Lap winding is preferred for which type of machines?

- [A] low current and low voltage
- [B] high current and high voltage
- [C] high current and low voltage
- [D] low current and high voltage

Answer: C

4. In a 2 pole lap winding dc machine , the resistance of one conductor is 2Ω and total number of conductors is 100. Find the total resistance

- [A] 200Ω
- [B] 100Ω
- [C] 50Ω
- [D] 10Ω

Answer: C

Explanation:-

Total resistance depends upon no of parallel path. In lap winding parallel path is no of poles and here it is two. Half of conductor are in series i.e. 50 in series and rest of 50 in series and they are parallel together. $50 \times 2\Omega$ in series = 100Ω . When two such paths are parallel their equivalent will be 50Ω .

5. A 4 pole lap wound dc generator has 4 brushes, if one of the brush is damaged, what will be the change in V, I and P ratings

- [A] V, I and P

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[B] $V/2$, $I/2$ and $P/4$

[C] $V/2$, I and $P/2$

[D] V , $I/2$ and $P/2$

Answer: D

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6. 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

Answer: B

7. Shunt field of DC generators consists of-----number of turns and ----- conductors respectively ?

- [A] large and thick
- [B] large and thin
- [C] less and thick
- [D] less and thin

Answer: B

8. Series field consists of-----number of turns and ----- conductors respectively ?

- [A] large and thick
- [B] large and thin
- [C] less and thick
- [D] less and thin

Answer: C

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9. What is/are the necessary conditions for voltage build up in self excited generator?

- [A] Poles should contain residual flux
- [B] Field winding should be properly connected to armature winding
- [C] Field winding resistance should be less than critical resistance
- [D] All of the above

Answer: D

10. No load saturation characteristics are plotted between ?

- [A] no load voltage and field current
- [B] no load voltage and armature current
- [C] short circuit current and field current
- [D] short circuit current and armature current

Answer: A

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