

# **SAMPLE PAPER ELECTRICAL TECH**

## ENGLISH

Choose the best option, from the given choices below each sentence.

1. Land where crops grow well is called \_\_\_\_\_.

- A) arid
- B) barren
- C) fertile
- D) poor

2. Aslam is elder \_\_\_\_\_ Sara.

- A) as
- B) that
- C) of
- D) than

3. I have a claim \_\_\_\_\_ my friend's help.

- A) for
- B) in
- C) on
- D) at

Each question below consists of a related pair of words, followed by five lettered pairs of words. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

4. **PHYSICS: SCIENCE::**

- A) chemistry: laboratory
- B) astronomy: galaxy
- C) fashion: style
- D) fir: tree

Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

5. **USUAL:**

- A) greedy
- B) strange
- C) brief
- D) fortunate

6. **FIXED:**

- A) countable
- B) flat
- C) changing
- D) rigid

Read the following passage to answer question (7-8)

The Big Bang theory, an explanation of the origins of our universe, is one of the greatest intellectual achievements of the twentieth century. According to this theory, about ten to twenty million years ago, the matter of which the universe is made was infinitely tightly compressed. Something—called the Big Bang—turned this matter into a gigantic fireball. As the matter was set into motion and flew away from its compressed state, bits of it became glued together to create galaxies and later, stars and planets. The motion of the matter that flew out of the fireball continues today, and the universe appears to be expanding. The theory grew out of observations of the Doppler effect. It explains that the frequency of radiation given off by a moving body decreases as the sources get further from the observer. In 1965, scientists discovered that the radiation bathing the earth is at the precise microwave frequency that would be expected if the universe began with a big bang. Some scientists think the expansion of the universe will continue to infinity, while others theorize that gravity will, at some point in the far distant future, collapse back onto itself in a "big crunch," returning it to a state of compressed matter.

7. As a moving object gets further from its source, its radiation frequency:

- A) stays the same
- B) grows larger
- C) grows smaller
- D) expands
- E) collapse

8. The author of this passage thinks the Big Bang theory:

- A) has not been proven
- B) does not explain the creation of the universe
- C) is a very important contribution to knowledge
- D) explains what happens when a moving body gets further from its source
- E) shows the frequency of radiation bathing the earth

## ANALYTICAL REASONING

### Questions 9-12

Eight toys B, C and D (soft) and H, I, J, K and L (hard) are divided into four sets available to play for different groups of kids:

Two sets contain three toys apiece and each set is given to one of two pink groups.

A single toy is given to blue group.

A single toy is given to a yellow group.

Each set given to pink group must contain at least one soft toy.

B or C, but not both, are given to blue group.

L must be in the same set with J.

Each toy is given only once to one group for playing.

9. If C is given to pink group and J is not with it, which of the following must be true?

- A) C is in the same set as K.
- B) D is in the same set as L.
- C) H is in the same set as I.
- D) K is in a different set than H.
- E) I is in a different set than H.

10. If H and D are in the same set, all of the following can be true EXCEPT:

- A) B and I are in the same set.
- B) C and J are in the same set.
- C) D and K are in the same set.
- D) I is given to the yellow group.
- E) H and I are in the same set.

11. Which of the following may comprise a set given to a pink group?

- A) B, K, L
- B) C, I, K
- C) C, D, H
- D) D, H, J
- E) H, J, L

12. The yellow group could be given which of the following toys?

- A) B
- B) C
- C) D
- D) J
- E) K

**Recent surveys show that the layman is unaware of most new health laws and doesn't understand 99% of the remaining health laws. This is mainly because of the laymen's inattention and lack of interest.**

**13. To make the point, the author of this statement:**

- A) gives a general statement followed by supporting facts**
- B) argues by pointing out the effects and then the cause**
- C) uses specific examples to disprove an argument**
- D) infers an outcome and then attempts to support that outcome**
- E) assumes the conclusion is true and uses circular reasoning to state the premise**

## QUANTITATIVE

14. Which of these is NOT equal to  $\frac{4}{9}$ ?

A)  $\frac{2}{3}$

B)  $\frac{20}{45}$

C)  $\frac{8}{18}$

D)  $\frac{16}{36}$

15. A boy saves 18 Rupees in 8 weeks. He continues to save at the same rate. How many weeks will it take him to save 81 rupees?

A) 13

B) 36

C) 40

D) 71

16. If the average (arithmetic means) of  $a$  and  $-5$  is  $10$ , then  $a = ?$

A) 25

B) 15

C) 5

D)  $-5$

## IQ

17. If  $4=0$   
 $5=5$   
 $6=12$   
 $7=21$   
 $8=32$   
Then  $9=?$

- A) 27
- B) 36
- C) 45
- D) 54
- E) 63

18. If a man is called boy, boy is called baby, baby is called child, child is called cook and cook is called villain, then who will work in a kitchen?

- A) man
- B) cook
- C) villain
- D) baby
- E) boy

19. If  $20 - 4 = 10$ ,  $30 - 6 = 10$ , then  $40 - 8 = ?$

- A) 32
- B) 10
- C) 30
- D) 22

## SUBJECT

**20. Two inductors are connected in parallel each having inductance of 5H. The equivalent inductance will be:**

- A) 10H
- B) 25H
- C) 2.5H
- D) 0H

**21. If a diode is damaged by heat what will be its behavior?**

- A) Conduct more
- B) Conduct less
- C) Short circuit
- D) Open circuit

**22. Some materials hold their electrons very tightly. Electrons do not move through them easily. These things are called:**

- A) Conductors
- B) Semiconductors
- C) Diodes
- D) Insulators
- E) Resistors

**23. Which of the following instrument will be used to measure alternating current?**

- A) Moving iron voltmeter
- B) Induction type ammeter
- C) Moving iron ammeter
- D) Permanent magnet type ammeter

**24. A full adder circuit can be implemented by using only:**

- A) NAND gates
- B) XOR gates
- C) AND gates
- D) NOT gates
- E) OR gates

**25. Why is an old appliance more expensive to run than a new appliance?**

- A) old appliances use much more energy
- B) old appliances are smaller and more efficient
- C) new appliances have smart meters
- D) old appliances use the best technology

**26. According to Faraday's laws of electromagnetic induction an emf is induced in a conductor whenever it:**

- A) lies in magnetic field
- B) lies perpendicular to the magnetic flux
- C) cuts magnetic flux
- D) creates magnetic field

**27. For reducing the hysteresis loss in generators:**

- A) armature core should be laminated
- B) stator should be terminated
- C) armature core material should have lower hysteresis coefficient
- D) armature core material should have high hysteresis coefficient

**28. Charge on  $6.24 \times 10^{18}$  electron is:**

- A) one coulomb
- B) one ampere
- C) one watt
- D) one meter

**29. The component of current which is in phase of voltage is called:**

- A) Active component
- B) Reactive component
- C) Plain component
- D) All of the above

**30. When a system is \_\_\_\_\_ damped, it means that if it is disturbed from rest, its coil oscillates back and forth.**

- A) un-damped
- B) over
- C) critically
- D) under

**31. Three phase energy meters have \_\_\_\_\_ phase power supply.**

- A) Two
- B) Three
- C) Four
- D) Multi

**32. Four-stroke petrol engines are used in:**

- A) Light vehicles like Fiat and Jeeps
- B) Heavy vehicles like Mercedes Benz car and buses
- C) Locomotives generating and pumping sets
- D) Both B & C

**33. Medium head plants operate at heads between \_\_\_\_\_ and \_\_\_\_\_ meters.**

- A) 10 ... 40
- B) 30 ... 60
- C) 30 ... 100
- D) 50 ... 120

**34. Which of the following statement is correct with respect to inverters?**

- A) Voltage source inverter and current source inverter both require feedback diode
- B) Only current source inverter requires feedback diodes
- C) GTOs can be used in current source inverter
- D) Only VSI requires feedback diode

**35. Phase shift oscillator has:**

- A) RC circuit
- B) LC circuit
- C) Voltage divider
- D) Lead lag circuit

**36. The transformer noise is mainly because of:**

- A) Cooling oil
- B) Sinusoidal current
- C) Magnetic flux
- D) All of the above

**37. A 1-phase transformer has a core whose cross-sectional area is 150**

**cm<sup>2</sup> and operates at a maximum flux density of 1.1 Wb/m<sup>1</sup> from a 50 c/s supply. If the secondary winding has a 66 turns, determine the output in KVA when connected to a load of 4Ω impedance. (neglect the voltage drop in the transformer)**

- A) 12 KVA
- B) 14.6 KVA
- C) 16.4 KVA
- D) 18 KVA

**38. Hunting or phase swinging is caused due to:**

- A) Change in load
- B) Change in excitation
- C) Due to supply frequency pulsating
- D) Change in some conditions of the system
- E) All of the above

## ANSWER KEY

Q #	ANSWER CHOICE
1	C
2	D
3	C
4	D
5	B
6	C
7	C
8	C
9	B
10	A
11	B
12	E
13	B
14	A
15	B
16	A
17	C
18	C
19	B
20	A
21	C
22	D
23	C
24	A
25	A
26	B
27	C
28	A
29	A
30	D
31	B
32	D
33	C
34	D
35	A
36	C
37	B
38	E