

SAMPLE PAPER

SUB ENGINEER

(ELECTRICAL) (BS-14)

ENGLISH

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

1. The musical instrument _____ is six feet long.

- A) is called the bass
- B) it is called the bass
- C) called the bass
- D) calls the bass

Choose the best opposite of the following words.

2. TYPICAL:

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

Choose the best same meaning of the following words.

3. BOLD:

- A) brave
- B) bright
- C) evil
- D) shy

Select the lettered pair that best expresses a relationship similar to that expressed in:

4. PHYSICS: SCIENCE::

- A) chemistry: laboratory
- B) astronomy: galaxy
- C) fashion: style
- D) lion: animal

Read the following passage to answer question (4)

Here's today's weather report. Temperatures will be in the mid sixties with breezes of ten to fifteen miles per hour. The sun will shine all day with no clouds expected. It's a great day to spend some time outdoors. The same great weather conditions will continue tomorrow and till the end of the week. Fog will roll in late Friday and heavy rainstorms are expected on Saturday.

5. What is the approximate temperature for today?

- A) About 15 degrees
- B) About 60 degrees
- C) About 65 degrees
- D) About 90 degrees

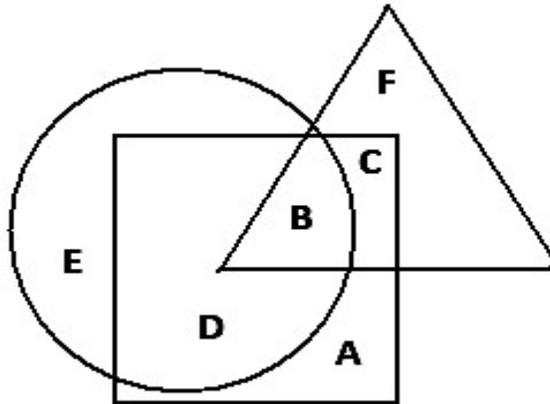
MATH

6. Which of these is NOT equal to $\frac{4}{9}$?
- A) $\frac{2}{3}$
 - B) $\frac{20}{45}$
 - C) $\frac{8}{18}$
 - D) $\frac{16}{36}$
7. A boy saves 18 Rupees in 8 weeks. He continuous 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
8. The radius of a circle is increased so that its circumference is increased by 5%. The area of the circle will increase by
- A) 10.25%
 - B) 10%
 - C) 5%
 - D) $\pi \times 25\%$

IQ

Question - 9

In the given diagram, three classes of population are represented by three figures. The triangle represents the school teachers, the square represents the married persons and the circle represents the persons living in joint families.



9. Married persons living in joint families but not working as school teachers are represented by:

- A) C
- B) F
- C) D
- D) A

10. Pick the odd one out:

- A) cub
- B) foal
- C) duckling
- D) cock

11. Complete the given series 6, 13, 28, ...:

- A) 56
- B) 57
- C) 58
- D) 59

GENERAL KNOWLEDGE

12. "Taj Mahal" a magnificent white marble mausoleum is situated at:

- A) Delhi
- B) Hyderabad
- C) Ahmadabad
- D) Agra

13. _____ is the essence of worship.

- A) prayer
- B) attire
- C) perfumery
- D) wealth

14. Which major global risk confronting Pakistan in last year was identified by the World Economic Forum (WEF) Global Risks Report?

- A) Political instability
- B) Economic vulnerabilities
- C) Climate-related disasters
- D) All of the above

15. Place of worship of Sikhs is called:

- A) Church
- B) Mandir
- C) Gurdawara
- D) Masjid

SUBJECT

16. 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

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

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

18. 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

19. 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

20. 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

21. 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

22. 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

23. 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

24. Charge on 6.24×10^{18} electron is:

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

25. 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

26. When a system is _____ dumped, it means that if it is disturbed from rest, its coil oscillates back and forth.

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

27. Three phase energy meters have _____ phase power supply.

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

28. 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

29. Medium head plants operate at heads between _____ and _____ meters.

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

30. 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

31. Phase shift oscillator has:

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

32. The transformer noise is mainly because of:

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

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

cm^2 and operates at a maximum flux density of 1.1 Wb/m^2 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

34. 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	B
3	A
4	D
5	C
6	A
7	B
8	A
9	C
10	D
11	D
12	D
13	A
14	D
15	C
16	A
17	C
18	D
19	C
20	A
21	A
22	B
23	C
24	A
25	A
26	D
27	B
28	D
29	C
30	D
31	A
32	C
33	B
34	E