

MODAL QUESTION PAPER
Sr. Assistant (Technical)
Max. Marks: 170

A. PROFESSIONAL KNOWLEDGE

1. **The speed of d.c. series motor at no load is**
(a) Zero (b) 1500 r.p.m. (c) infinity (d) 3000 r.p.m.
2. **Which of the following motor is used in the locomotives motor drives**
(a) A.C. series motor (b) Induction motor
(c) D.C. series motor (d) Synchronous motor
3. **The condition for the maximum efficiency of the transformer is that**
(a) Copper losses are half of the iron losses
(b) Copper losses are equal to iron losses
(c) Copper losses are negligible in comparison to iron losses
(d) Iron losses are zero
4. **The ampere-hour efficiency of a lead acid cell is**
(a) 80% (b) 85% (c) 72% to 80% (d) 90% to 95%
5. **The rating of the batteries is given by**
(a) KW(b) VARh (c) KVA (d) Ampere-hours
6. **For which of the following gate, the output will be one if all inputs are one ,**
(a) Ex-OR gate (b) AND gate (c) NAND gate (d) NOT gate
7. **CD-ROM stands for**
a. Compactable Read Only Memory b. Compact Data Read Only Memory
c. Compactable Disk Read Only Memory d. Compact Disk Read Only Memory
8. **ALU is**
(a) Arithmetic Logic Unit (b) Array Logic Unit
(c) Application Logic Unit (d) None of above
9. **WAN stands for**
(a) Wap Area Network (b) Wide Area Network
(c) Wide Array Net (d) Wireless Area Network
10. **ASCII stands for**
(a) American Stable Code for International Interchange
(b) American Standard Case for Institutional Interchange
(c) American Standard Code for Information Interchange
(d) American Standard Code for Interchange Information

11. **The characteristic curves of the transistor are much more like those of**
 (a) diode (b) triode (c) pentode (d) tetrode
12. **The p-n junction behaves like a**
 (a) diode (b) triode (c) tetrode (d) pentode
13. **The voltage at which the electrons flow starts from the anode to cathode is called**
 (a) breakdown voltage (b) peak inverse voltage
 (c) peak voltage (d) pinch off voltage
14. **The function of the base in the transistor is analogous to**
 (a) plate in the triode (b) cathode in the triode
 (c) grid in the triode (d) heater in the triode
15. **The electrons are the majority carrier in the**
 (a) n-p-n transistor (b) p-n-p transistor
 (c) n-type semiconductor (d) p-type semiconductor
16. **The field-effect transistor can be used as**
 (a) a variable capacitance (b) a variable reactance
 (c) a variable inductance (d) a variable resistance
17. **Fuel, in diesel engine is ignited by**
 (a) spark (b) combustion chamber
 (c) heat produced by compressing air (d) the injection of heat
18. **Two stroke engine completes one complete cycle in)**
 (a) two revolutions of crank shaft (b) one revolutions of crank shaft
 (c) half revolutions of crank shaft (d) one and half revolutions of crank shaft
19. **The idler pulley may be mounted on**
 (a) slack side (b) tight side (c) either slack or tight side (d) anywhere
20. **The correct statement is**
 (a) $IHP = BHP + FHP$ (b) $BHP = IHP + FHP$
 (c) $IHP = BHP - FHP$ (d) $FHP = IHP + BHP$
21. **More power can be transmitted with**
 (a) angular belt drive (b) open belt drive
 (c) cross belt drive (d) open belt with idle pulley
22. **Vapour compression refrigeration is similar to that of**
 (a) rankine cycle (b) reversed carnot cycle
 (c) carnot cycle (d) reversed rankine cycle
23. **The domestic type of refrigerator make use of the type of compressor**
 (a) axial flow (b) radial flow
 (c) piston type reciprocating (d) miniature type

- 24. What does one ton of refrigeration represent**
 (a) freeze of one ton of water at 0°C into ice at 0°C in 24 hours.
 (b) it is the IS unit adopted in refrigeration problems
 (c) the effect of refrigeration producing one ton of ice at NTP.
 (d) rate of producing ice per hour
- 25. The ideal location of drier so as it may soak moisture before the moisture enter the**
 (a) cold side of the system (b) compressor
 (c) evaporator (d) condenser
- 26. The reading on Centigrade and Fahrenheit scales are same at**
 (a) 0° (b) 32° (c) -32° (d) -40°
- 27. The voltage used for resistance welding is**
 (a) 10 volts (b) 100 volts (c) more than 100 volts (d) less than 10 volts
- 28. Dissimilar materials of different thickness can be both welded by**
 (a) narrowing the gap between the sheets (b) controlling the pressure and current
 (c) providing proper edge preparation (d) increasing the gap between the sheets
- 29. The temperature generated during arc welding is**
 (a) below 1000°C (b) above 1000°C but below 2500°C
 (c) 5500°C (d) above 5500°C
- 30. During reverse polarity welding**
 (a) Work is earthed and electrode holder is connected to positive
 (b) Work is connected to positive whereas the electrode holder to the negative
 (c) Work is connected to negative whereas the electrode holder to the positive
 (d) None of a, b and c
- 31. The flux used for brazing brass, copper bronze etc. is**
 (a) mixture of borax and boric acid with some wetting agent
 (b) boric acid, fluoride with some melting agent
 (c) chlorides and fluorides mixed with water
 (d) any other
- 32. During drilling of job the drill runs to one side resulting in an enlarged hole. The major cause is**
 (a) the size of drill is incorrect
 (b) face of the work is not smooth and square with its axis
 (c) less cutting speed
 (d) more cutting speed

33. During boring operation the bored hole is under size or over size. The reason being
 (a) more cutting speed is employed
 (b) both lips of the cut has not equal in length
 (c) depth of the cut has not been set properly
 (d) feed is too much
34. During screw cutting the pitch of the threads being cut is incorrect. The major cause is
 (a) the location of the change gears selected seems to be wrong
 (b) idler gear is not of proper teeth
 (c) tool angle is not proper
 (d) tool setting is not accurate with respect of the work
35. The fastest method of cutting gear is
 (a) milling (b) hobbing (c) casting (d) any other

B. REASONING

36. Find the Odd Group
 (a) ABC (b) BCd (c) CDe (d) Efh
37. Find the Odd Group
 (a) aabdee (b) bbceff (c) ffgijj
 (d) trgggh
38. Find the Odd one
 (a) Man (b) Wife (c) Husband (d) Sister
39. if children were robots parents would be
 (a) Scientists (b) Calculations (c) Machines (d) Metals
40. If mummies were queens, pyramids would be
 (a) graves (b) coffins (c) palaces (d) frying

Instructions for Q41 to 44

A & B are sisters, B is wife of Q. F is son of R. G is daughter of B. P is husband of A. R is father of B, E is daughter of D, C is wife of D, A is mother of D.

41. Who is grandfather of E?
 (a) R (b) P (c) Q (d) D
42. Who is maternal uncle of G?

- (a) P (b) A (c) F (d) D
- 43 Who is grandfather of R?
 (a) A (b) none (c) B (d) Q
- 44 Who is brother of A?
 (a) A (b) D (c) F (d) G
- 45 If poets were cooks poems would be
 (a) kitchen (b) dishes (c) recipes
 (d) frying
- 46 If Zoology were botany animals would be
 (a) Green (b) Lifekone (c) diagram (d) plants

Instructions for Q 47 & 50: In each of the letter sequence, some letter are missing. Find the correct choice from the four alternative given.

- 47 a - c - b - ab - a - ca - c
 (a) abaccd (b) accbab (c) aabbcc
 (d) baccbb
- 48 - b - a - a - b - b
 (a) abaccb (b) accbab (c) ababaa
 (d) baccba
- 49 ab - c - c - a - ab - a - cc
 (a) bbccab (b) aabcba (c) cbabb
 (d) bacbbe
- 50 - b - bca - a - ab - a
 (a) abbca (b) babac (c) accbc
 (d) cabba

C. MATHEMATICAL ABILITY

- 51 What is the result of $1 - (25 \times 1) / (5 \times 5) + 40 / 23$
 (a) 0 (b) 2 (c) 5 (d) -3
- 52 What will be the next number in the sequence : 21, 3 , 28, 4, 35
 (a) 4 (b) 5 (c) 6 (d) 42
- 53 A bird is flying at 70kmph above a train traveling at 40kmph in same direction. The speed of the bird with respect to train will be
 (a) 110 kmph (b) 30 kmph (c) 40 kmph (d) 70 kmph

- 54 London is 4hrs. 30 mins behind New Delhi. If it is 2 am in New Delhi, then the time in London will be
 (a) 9.30 am (b) 2 pm (c) 2 am (d) 9.30 pm
- 55 Ram started walking from point A. He walked 3 kms north, then 3 kms east, 6 kms south, 3 kms west and then 1 km north. His final location from point a is
 (a) 2 kms west (b) 2 kms north (c) 2 kms south (d) 2 kms east
- 56 $\frac{28}{25}$ is equal to
 (a) 0 (b) 2 (c) 4 (d) 8
- 57 What is the largest 4 digit number beginning with 7 and ending with 6?
 (a) 7006 (b) 7666 (c) 7776 (d) 7996
- 58 Nitya was born on 11.11.2001. How old she was on 11.03.2008.
 (a) 6 yrs., 2 months (b) 7 years
 (c) 6 yrs., 4 months (d) 7 yrs., 4 months
- 59 Kamran went to the market with Rs.76. He met Ram who gave him Rs.18 more. He then bought 6 oranges for Rs.3 each, 10 apples at Rs.4.50 each. He then paid Rs.17 for the rickshaw to ride back home. Kamran has now
 (a) Rs.12 (b) Rs.14 (c) Rs.16 (d) Rs.31
- 60 Fill in with the correct sign: $(13 \times 7) _ (7 \times 10) = 21$
 (a) + (b) - (c) x (d) /
- 61 A salesman gets commission of 8% upto a sale of Rs.8,000 and $12\frac{1}{2}\%$ above Rs.8,000. If the salesman makes a sale of Rs.10,000, then what is his commission?
 (a) Rs.1,250 (b) Rs.800 (c) Rs.980 (d) Rs.890
- 62 $(0.071)^2 = \dots\dots\dots$
 (a) 0.5041 (b) 0.005041 (c) 0.05041 (d) 0.0005041
- 63 If average of four consecutive even numbers is 23, then what is the smallest number?
 (a) 24 (b) 26 (c) 22 (d) 20
- 64 Vinu left to Shyam's house on bicycle with a speed of 10 Km/hr. As Shyam was not at home, Vinu returned his home immediately with the same speed. If he took 36 minutes to go and come back, then how far I Shyam's house from Vinu's house?
 (a) 3 km (b) 6 km (c) 10 km (d) 12 km
- 65 What is the area of a rectangle with length $(4m+3)$ cm, breadth $(3m+1)$ cm and the perimeter 50cm?
 (a) 100 sqcm (b) 2400 sqcm (c) 150 sqcm (d) 200 sqcm

D. GENERAL KNOWLEDGE

D सामान्य ज्ञान

66 Aero plane was invented by

- (a) Write Brothers (b) R.L.Stephenson
(c) James Watt (d) Graham Bell

66. वायुयान का आविष्कार किया था :

- क. राइट बंधु ख. आर एल स्टीफेंसन
ग. जेम्स बाट घ. ग्राहम बेल

67 Capital of Australia is

- (a) Melbourne (b) Sydney (c) Canberra (d) Perth

67. आस्ट्रेलिया की राजधानी है:

- क. मेलबोर्न ख. सिडनी
ग. केनबरा घ. पर्थ

68 The second President of our country was

- (a) Dr. Rajendra Prasad (b) Dr. S.Radhakrishnan
(c) Dr.Zakir Hussain (d) S. V.V.Giri

68. हमारे देश के दूसरे राष्ट्रपति थे :

- क. डा. राजेन्द्र प्रसाद ख. डा. राधाकृष्णन
ग. डा. जाकिर हुसैन घ. श्री वी वी गिरी

69 The country known as "Land Rising Sun" is

- (a) Japan (b) China (c) Korea (d) Taiwan

69. उगते सूर्य का देश कहा जाता है :-

- क. जापान ख. चीन
ग. कोरिया घ. ताईवान

70 Number of States is

- (a) 22 (b) 25 (c) 28 (d) 30

70. राज्यों की संख्या है :

- क. 22 ख. 25
ग. 28 घ. 30

71 Brazil is situated in

- (a) South America (b) Africa (c) Asia (d) Australia

71. ब्राजील स्थिति है :
- क. दक्षिण अमेरिका ख. अफ्रीका
ग. एशिया घ. आस्ट्रेलिया
72. Boling point of water is
(a) 100° C (b) 100° F (c) 0° F (d) 0° C
72. पानी का क्वथनांक (बॉयलिंग पॉइंट) है :
- क. 100°C ख. 100°F
ग. 0°F घ. 0°C
73. Saddam Hussain was the President
(a) Iran (b) Iraq (c) Kuwait (d) UAE
73. सद्दाम हुसैन राष्ट्रपति थे:-
- क. ईरान ख. ईराक
ग. कुवैत घ. यूएई
74. Official guest in Republic Day Celebration this year was
(a) British Prime Minister (b) German Chancellor
(c) French President (d) None of the above
74. इस वर्ष के गणतन्त्र दिवस समारोह में अधिकारिक मेहमान थे :
- क. ब्रिटिश प्रधानमंत्री ख. जर्मन चांसलर
ग. फ्रांस के राष्ट्रपति घ. उक्त में से कोई नहीं
75. What does 'e' in an e-mail stand for?
(a) Encyclopedia (b) Electronic (c) Electric (d) Engine
75. email में e का अर्थ है :-
- क. एनसलाईकोपिडिया ख. इलेक्ट्रॉनिक
ग. इलेक्ट्रीक घ. इंजिन

E. ENGLISH LANGUAGE

- 76 The climate of Chennai quite warm lately.
(a) is (b) will (c) could (d) has been
- 77 Moses Bring any money with him to office this morning.
(a) will (b) doesn't (c) didn't (d) hadn't
- 78 Didn't James Teach you English Grammer?
(a) is (b) use to (c) used to (d) was
- 79 The sound of jet aircraft always me.
(a) Disturbs (b) disturb (c) will (d) would

Instructions for Q 80 to 85: Please indicate the part having mistake.

- 80 When it was afternoon he shall take rest.
(a) (b) (c) (d)
- 81 Isn't Madhav coming as soon as we all got ready.
(a) (b) (c) (d)
- 82 Sunder asked me where I am going.
(a) (b) (c) (d) None of the above
- 83 All of us has been used to mutton and chicken.
(a) (b) (c)
(d) None of the above
- 84 My trousers is very long.
(a) (b) (c) (d) None of the above
- 85 Neither they nor he are to be blamed.
(a) (b) (c)
(d) None of the above

(Note: Please note that Modal Question Paper is Indicative only. The composition and pattern of original question paper may be different.)