Sl. No. : 107421

Booklet Code : A

Time : 2 Hours

AST–2019

Maximum Marks : 100

Signature of Invigilator

Signature of Candidate

INSTRUCTIONS

1. This booklet contains **28** printed pages and **100** multiple choice questions.
2. Each question carries **1** mark. No negative marks are awarded for wrong answer.
3. The candidate has to choose closest answer among the four options and bubble corresponding option in the OMR Sheet provided.
4. The answers are to be marked with blue/black ball point pen only. Once the answer is marked, it is not possible to erase the answer. Use of white correcting fluid / eraser is not permitted.
5. The candidate is permitted to start answering only when bell is given at the commencement of examination.
6. No candidate is allowed to leave the examination hall till the end of the examination.
7. The candidate is allowed to take away the QP booklet and carbon copy of OMR Sheet. Original OMR is to be submitted to the invigilator.
8. The candidate has to sign on QP booklet, OMR Sheet and Nominal Rolls. The candidate has to bubble appropriate QP booklet code in OMR Sheet.
9. Use of calculators / mobiles phones / laptops is not permitted in Examination Hall.
10. Any kind of unfair means of copying will invalidate the candidature.

SEAL

Test Prime By Adda247

ALL EXAMS, ONE SUBSCRIPTION

Test. Analyze. Improve. Repeat.

Don't just prepare. Perform.

Test Prime — built only for mock tests.

1,50,000+ Mock Tests

25,000+ Previous Year Papers

800+ Exam Covered

500% Refund on Selection

5 lakh+ Free Quizzes

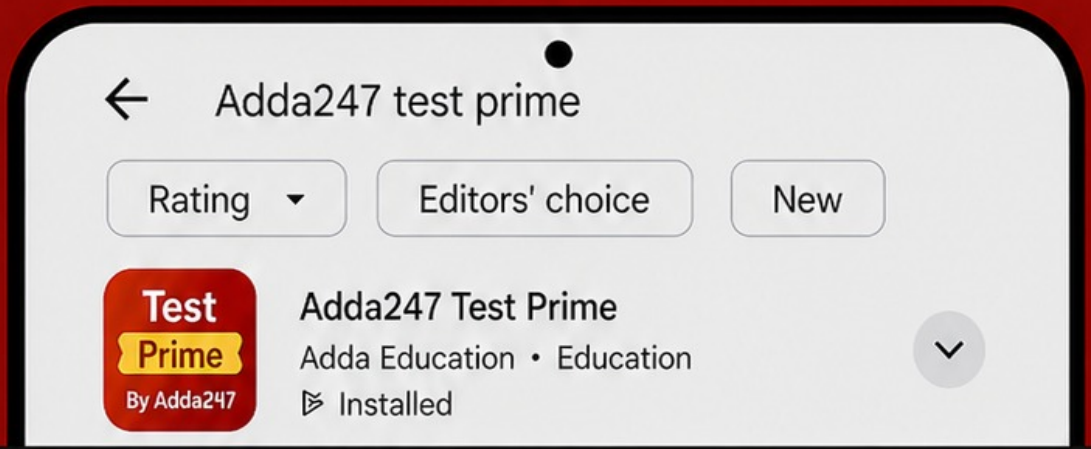
Daily Free PDFs

Job Alerts Stay Updated

- Multilingual
- Detailed Solution
- Strong and Weak Areas

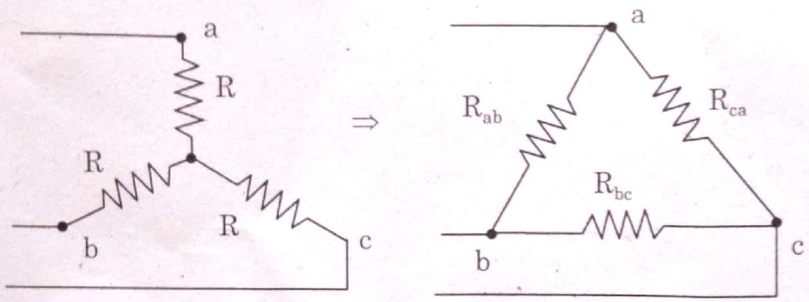
All India Rankings

Compete with lakhs.
Rank. Improve. Repeat.



DOWNLOAD THE APP

1. A star circuit and its equivalent delta are shown.



The resistance between terminals a and b in the star circuit with c open is $10\,\Omega$.

The resistance between terminals a and b with c open in the delta circuit in ohms is

(A) $5\sqrt{3}$

(B) $\frac{5}{\sqrt{3}}$

(C) 10

(D) $\frac{10}{3}$

2. An e.m.f of 1.5 kV is induced in a coil when a current of 4A collapses uniformly to zero in 8 ms. The inductance of the coil is

(A) 3 H

(B) 2 mH

(C) 1/3 H

(D) 5 H

3. SI unit of magnetic flux density is

(A) Weber

(B) Tesla

(C) Ampere per meter

(D) Weber per meter

4. Which of the following statements is false?

For a sine-wave

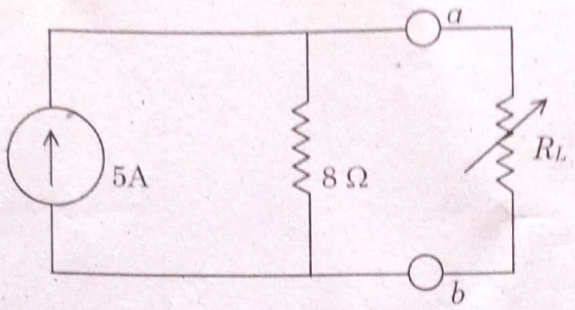
(A) the peak factor is 1.414

(B) the average value is 0.637 × r.m.s. value

(C) the r.m.s. value is 0.707 × peak value

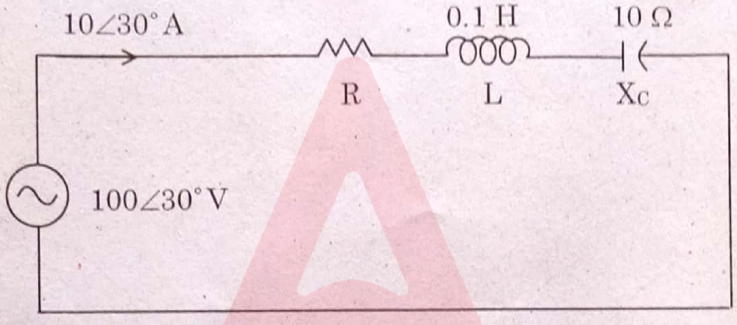
(D) the form factor is 1.11

5. The maximum power that can be transferred to the load R_L (in watts) in the circuit shown is



(A) 50
(B) 100
(C) 200
(D) 40

6. In the circuit shown, the frequency of the sinusoidal source is about



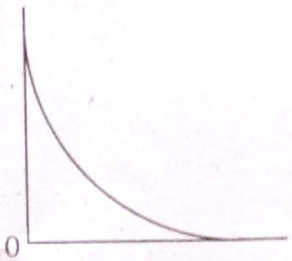
(A) 100 Hz
(B) 25 Hz
(C) 50 Hz
(D) 16 Hz

7. Ampere – second is the same as
(A) coulomb
(B) joule
(C) watt
(D) volt

8. Consider the following statement :
1. Cold resistance of a filament lamp is higher than its hot resistance.
2. Thermistors usually have negative temperature coefficient.
(A) Both the statements are true
(B) Neither of the statements is true
(C) Statements 1 is only true
(D) Statement 2 is only true

9. The law which gives the direction of the induced e.m.f. is
(A) Faraday's law
(B) Biot-Savart law
(C) Lenz's law
(D) Fleming's left hand rule

10. The graph shown in the figure represents. (R, L and C have constant values)



(A) Impedance Vs frequency in an RLC series circuit

(B) $|X_C|$ Vs frequency

(C) $|X_L|$ Vs frequency

(D) Current Vs frequency in an RLC series circuit

11. The magnetic field due to a current carrying conductor takes the form of

(A) concentric circles

(B) rectangles

(C) wavy lines

(D) straight lines radiating outwards

12. Siemens is the SI unit for

(A) reluctance

(B) conductance

(C) luminous flux

(D) electric flux density

13. If a function $f(t)$ is odd then its Fourier coefficients satisfy

(A) $a_0 \neq 0 \quad a_n \neq 0 \quad b_n = 0$

(B) $a_0 \neq 0 \quad a_n \neq 0 \quad b_n \neq 0$

(C) $a_0 = 0 \quad a_n \neq 0 \quad b_n \neq 0$

(D) $a_0 = 0 \quad a_n = 0 \quad b_n \neq 0$

14. Which of the following two-port parameters is dimensionally different from the other three?

(A) z_{11}

(B) h_{11}

(C) transmission parameter 'B'

(D) h_{22}

15. In the two – wattmeter method of power measurement in a balanced 3–phase circuit, one of the wattmeters reads negative. The inference regarding the power factor of the load is

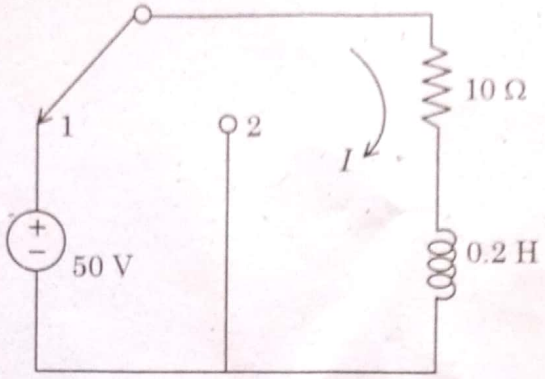
(A) unity $p.f$

(B) $p.f > \frac{\sqrt{3}}{2}$

(C) $p.f < 0.5$

(D) $p.f > 0.5$

16. In the circuit shown in figure the switch is on position 1 long enough to establish steady state and switched to position 2 at $t = 0$. The current I for $t \geq 0$ is



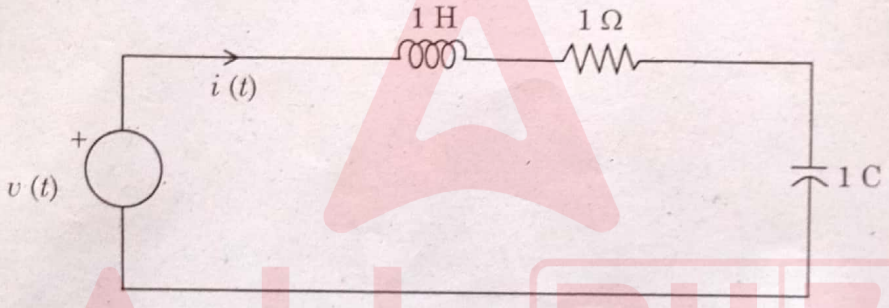
(A) 0

(B) $5e^{-0.02t}$

(C) $5e^{-50t}$

(D) $\sqrt{100.04}\, e^{-50t}$

17. Refer to the circuit shown in figure :



If $V(s)$ and $I(s)$ are the Laplace transforms of $v(t)$ and $i(t)$, then $\frac{I(s)}{V(s)} =$

(A) $\frac{s}{s^2+s+1}$

(B) $\frac{s+1}{s}$

(C) $\frac{s}{s+1}$

(D) $\frac{s^2+s+1}{s}$

18. Choose the odd one out :
Symbols used are of standard notation.

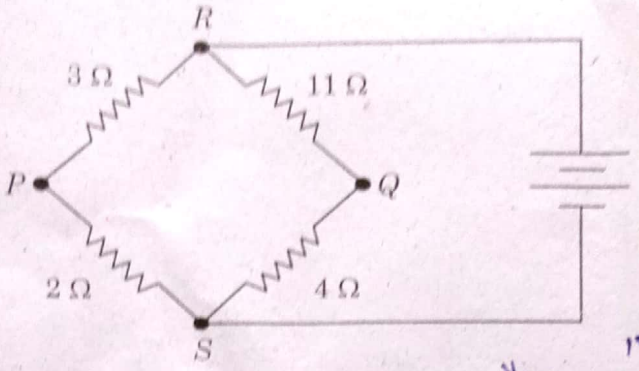
(A) $\frac{2\pi}{\omega}$

(B) RC

(C) $\frac{L}{R}$

(D) ωL

19. With reference to the circuit shown which of the following statements is not true.



(A) $V_{PQ} = 2V$

(B) $V_{RS} = 15V$

(C) The bridge is balanced

(D) When load is connected between P and Q, current flows from P to Q

20. The bridge used to measure frequency is

(A) Schering bridge (B) Owen bridge

(C) Hay bridge (D) Wien bridge

21. Which of the following statements is false?

(A) Moving coil instruments can be used on d.c. only

(B) Moving iron instruments have a non-linear scale

(C) Moving coil rectifier instrument has a linear scale

(D) Moving iron instruments can be used only on a.c

22. Consider the following statements :

1. When used as ammeter, dynamometer instrument has a square – law scale.
2. When used as wattmeter, dynamometer instrument has uniform scale.

(A) Only statement 1 is true

(B) Only statement 2 is true

(C) Neither of the statements is true

(D) Both the statements are true

23. Electric power utility companies specify the tariff in terms of Rs. per unit
Unit here refers to

(A) kW (B) kVAh

(C) kWh (D) Ampere – hours

24. Choose the odd one out

(A) Strain gauge
(B) Thermistor
(C) RTD
(D) Thermo couple

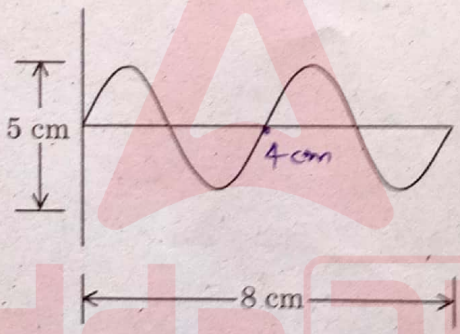
25. LVDT is the abbrevation for

(A) Linear voltage displacement transducer
(B) Linear variable differential transmitter
(C) Linear variable differential transformer
(D) Linear voltage displacement transformer

26. Which of the following is needed to extend the range of a milliammeter to read the voltages of the order of 100V?

(A) A parallel high – value resistance
(B) A series high – value resistance
(C) A parallel low – value resistance
(D) A series low – value resistance

27. The figure shows a sinusoidal waveform observed on a CRO screen. The knobs on the CRO panel were on 100 $\mu s/cm$ and 10 V/cm positions. The frequency and the rms values of the waveform respectively are



(A) 2.5 kHz, 17.7 V
(B) 2.5 kHz, 25 V
(C) 1.25 kHz, 25 V
(D) 1.25 kHz, 17.7 V

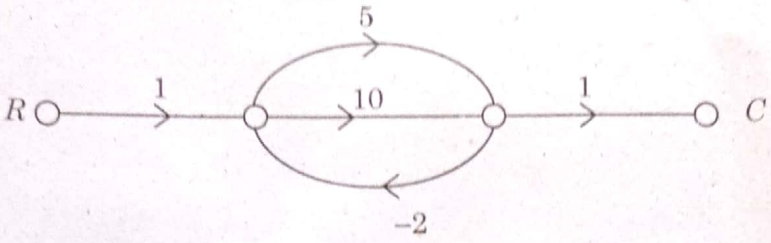
28. The average power in a 25 Ω resistor when it passes a current $i(t) = 2 + 3\sin\omega t + 2\sin 2\omega t + \sin 3\omega t$ amperes

(A) 200 W
(B) 275 W
(C) $25\sqrt{8}$ W
(D) 100 W

29. In force – current analogy the mass M in a mechanical system is analogous to _____ in an electrical system.

(A) conductance, G
(B) inverse inductance, $\frac{1}{L}$
(C) capacitance, C
(D) resistance, R

30. C/R for the SFG shown is



(A) 15/31
(B) 15/21
(C) −10/29
(D) −15/29

31. The characteristic equation of a feedback system is given by

$$s^3 + 13s^2 + 30s + K = 0$$

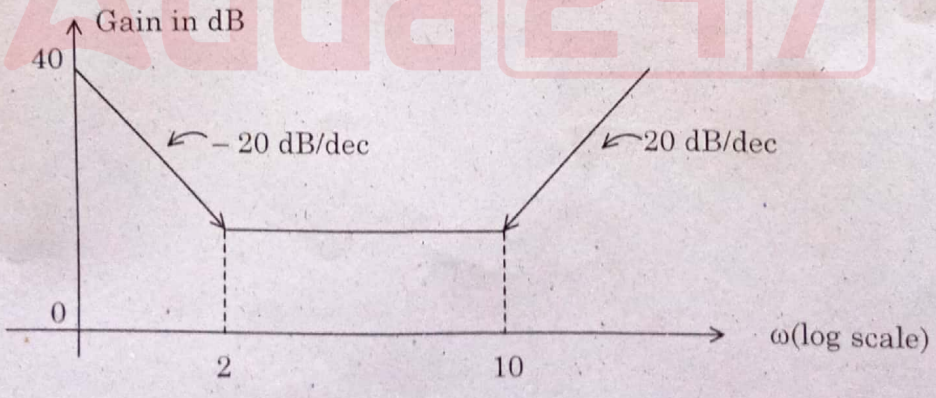
Which of the following statements is not TRUE.

(A) The system is stable for $0 < K < 390$
(B) The system oscillates for $K = 390$
(C) The frequency of oscillation is $\sqrt{30}$ rad/sec
(D) The auxilary equation in the Routh's tabulation is $13s + 390$

32. Which of the following is the time domain analysis method of control systems?

(A) Nyquist diagrams
(B) Root – locus method
(C) Bode – Plot representation
(D) Nichol's chart

33. The transfer function (known to be minimum phase) of the system whose magnitude plot is shown in figure



(A) $\frac{Ks}{(s+2)(s+10)}$
(B) $\frac{K(s+2)(s+10)}{s}$
(C) $\frac{K(s+2)}{s(s+10)}$
(D) $\frac{K(s+10)}{s(s+2)}$

34. The unit impulse response of the system whose transfer function is $\frac{3s}{s+2}$

(A) $3\delta(t) - e^{-2t}$

(B) $3 - 6e^{-2t}$

(C) $3e^{-2t}$

(D) $3e^{2t}$

35. The transfer function of the forward path of a unit – feedback system is given by

$$G(s) = \frac{K}{s(s+1)(s+9)}$$

If point $s = j3$ lies on the Root–locus, the value of K at this point is

(A) 13

(B) 30

(C) 27

(D) 90

36. The characteristic equation of a second-order system is

$$s^2 + 6s + 9 = 0$$

The system is

(A) Undamped

(B) Underdamped

(C) Critically damped

(D) Overdamped

37. The final value of the functions $f(t)$, whose Lapace transform is

$$F(s) = \frac{2(s+1)}{s(s+3)(s+5)^2}$$

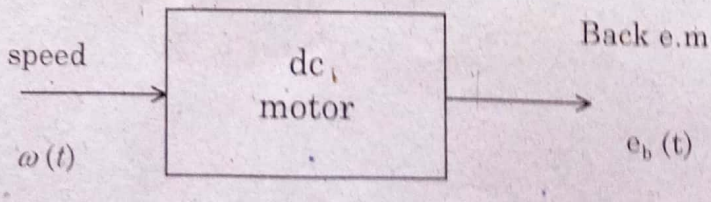
(A) 0

(B) 2/13

(C) 2/75

(D) does not exist

38. The transfer function of the dc servo-motor $\frac{E_b(s)}{\omega(s)}$ can be expressed as (K_b is a constant)



(A) $\frac{K_b}{s^2}$

(B) $\frac{K_b}{s}$

(C) K_b

(D) $K_b s$

39. The polar plot of the transfer function

$$G(s)=\frac{1}{s(Ts+1)}$$

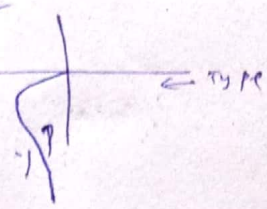
has intersection(s) on (apart from the origin)

(A) neither the real axis nor the imaginary axis

(B) both the real and imaginary axes

(C) the real axis only

(D) the imaginary axis only



40. The unit-step steady-state error of a system whose forward path transfer function $G(s)=\frac{120(s+2)}{(s+3)(s+4)}$ and unity – feedback is

(A) ∞

(B) $\frac{1}{21}$

(C) 0

(D) $\frac{1}{20}$

41. Dynamic resistance of a germanium PN junction diode at a forward current of 2mA is

(A) 26Ω

(B) 52Ω

(C) 6.5Ω

(D) 13Ω

42. A transistor has a maximum power dissipation of 310 mW at a free air temperature of 25°C and derating factor of 2.81 mW/°C. If the transistor is to be operated at a free air temperature of 105°C, the derated power dissipation value will be

(A) 65.2 W

(B) 75.2 W

(C) 85.2 W

(D) 95.2 W

43. In an FET, the drain current changes from 8.0 mA to 7.5 mA when gate – source voltage is changed from 0 to −0.25 V, keeping drain – source voltage constant. The transconductance will be

(A) 6 ms

(B) 4 ms

(C) 1 ms

(D) 2 ms

44. The theoretical maximum efficiency of a transformer – coupled class–A power amplifier is

(A) 25%

(B) 50%

(C) 78.5%

(D) 92%

45. A feedback amplifier is designed with a closed – loop voltage gain of 100, feedback factor is 9, then the open-loop gain will be

(A) 100 (B) 900

(C) 1,000 (D) 10,000

46. In a 4-bit Johnson counter sequence, the total number of states are

(A) 1 (B) 3

(C) 4 (D) 8

47. A monostable multivibrator using 555 timer has a time delay of 1000ms, timing resistor of 120 kΩ. The value of timing capacitor is

(A) $7.5\mu F$ (B) $9\mu F$

(C) $12\mu F$ (D) $2.5\mu F$

48. Small timing errors in ADC additional to noise are called as

(A) Flicker (B) Aliasing

(C) Jitter (D) Shot noise

49. Conversion time of a 12-bit counter type ADC with 1 MHz clock frequency to convert a full – scale input is

(A) 4.095 s (B) 4.095 ms

(C) $4.095\mu s$ (D) 2.048 ms

50. The gray code equivalent of binary 101 is

(A) 000 (B) 111

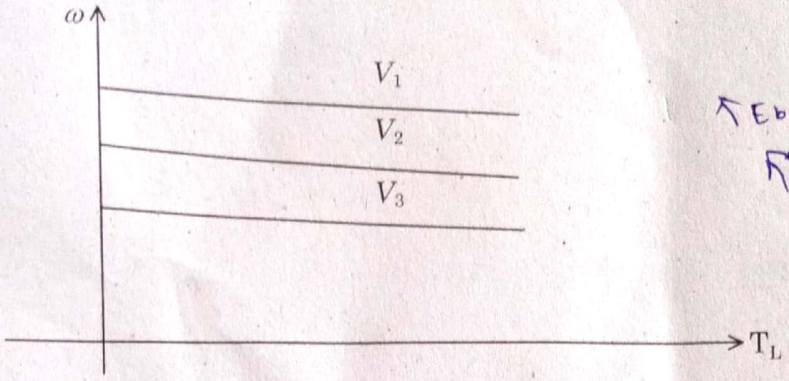
(C) 101 (D) 110

51. A dc shunt motor is connected to a constant voltage mains, and drives a load torque which is independent of speed. For decreasing the speed by increasing flux/pole, the condition required is

(A) $E_b < \frac{V}{2}$ (B) $E_b > \frac{V}{2}$

(C) $E_b = \frac{V}{2}$ (D) $E_b = 1 - \frac{V}{2}$

52. The following characteristics refer to a dc shunt motor. Identify the correct option :



(A) $V_1 < V_2 < V_3$
(B) $V_1 > V_2 > V_3$
(C) $V_1 = V_2 = V_3$
(D) $V_1 < V_2 > V_3$

53. A 220 V dc series motor is drawing a current of 10A when delivering certain load. The total resistance of armature and series field is 1 ohm. It is braked by plugging. The resistance to be put in series with motor to restrict current to 20 A would be

(A) 15.5Ω
(B) 15.2Ω
(C) 10.2Ω
(D) 20.5Ω

54. A 3–ph slip ring Induction motor has a stand still rotor impedance of $(3+j4)\Omega/ph$ and rotor emf of $100V/ph$ at stand still. Its rotor current at stand still is

(A) 25 A
(B) 30 A
(C) 35 A
(D) 20 A

55. Match the motors in List – I with parts in List – II :

List – I		List – II
(p)	universal motor	(1) damper bars
(q)	synchronous motor	(2) rotor bars
(r)	3–ph induction motor	(3) commutator

(A) p – 3, q – 1, r – 2
(B) p – 1, q – 2, r – 3
(C) p – 2, q – 3, r – 1
(D) p – 1, q – 3, r – 2

56. The following loss in electrical machine does not produce heat

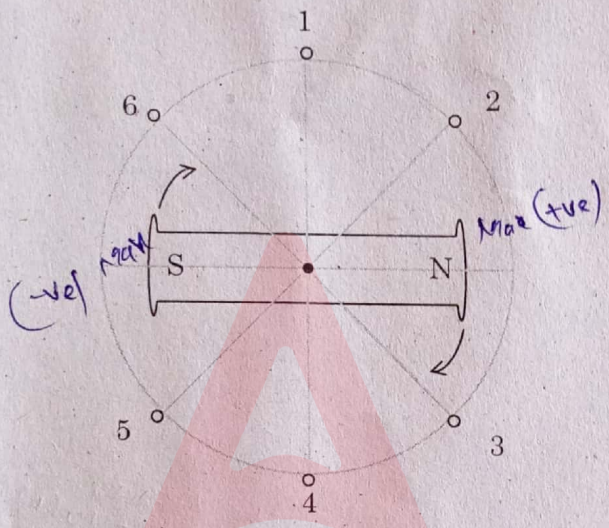
(A) Copper losses

(B) Eddy current loss

(C) Hysteresis loss

(D) Frictional loss

57. The front – end cross sectional view of simple loop alternator is shown in figure. The direction of emf at the instant shown would be



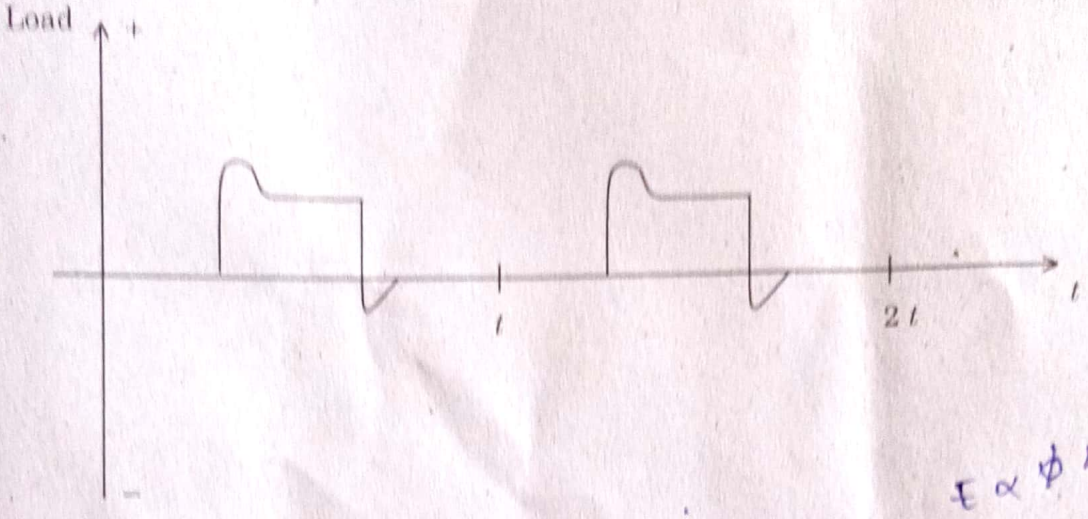
R – phase : $\overset{\frown}{1-4}$

Y – phase : $\overset{\frown}{3-6}$

B – phase : $\overset{\frown}{5-2}$

	Conductor			
	2	3	5	6
(A)	⊙	⊙	⊗	⊗
(B)	⊗	⊗	⊙	⊙
(C)	⊗	⊙	⊗	⊙
(D)	⊙	⊗	⊙	⊗

58. For the load – time plot given below, identify the type of load



(A) Continuous duty with intermittent periodic load

(B) Continuous duty with starting and braking

(C) Intermittent periodic duty without braking

(D) Intermittent periodic duty with starting are braking

59. A dc generator has an armature emf of 100 V when useful flux/pole is 20 mwb, and a speed of 800 rpm. The generated emf at a speed of 1000 rpm and same flux is

(A) 125 V (B) 110 V

(C) 130 V (D) 115 V

60. The slot distribution for R-phase of a 24 slot, 4p, 3–ph lap winding with two conductors/slot (double layer) is given below :

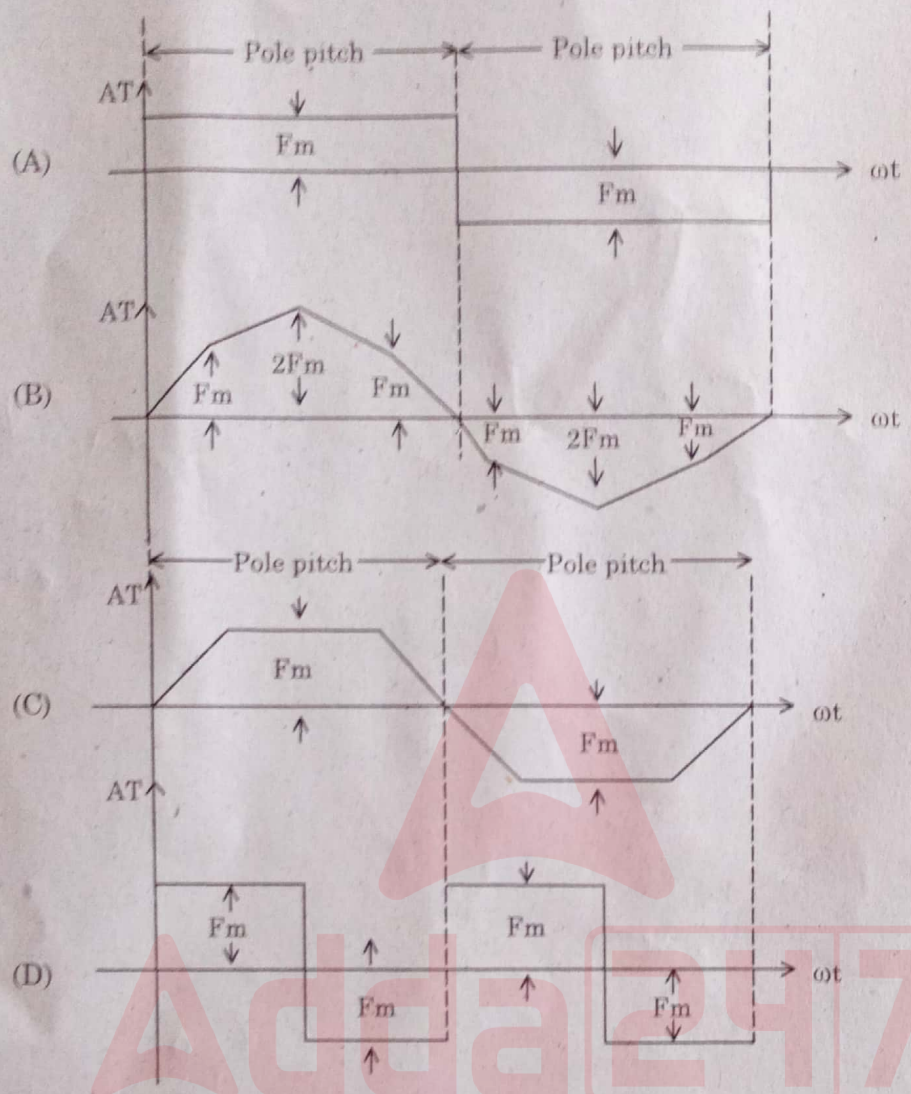
N	S	N	S
1, 2	7, 8	13, 14	19, 20

The first coil of R-ph in terms of numbering of coil sides would be

(A) 25 – 38 – 26 – 40 (B) 1 – 10 – 3 – 12

(C) 1 – 14 – 3 – 16 (D) 5 – 13 – 6 – 14

61. Pick up correct option which represents the shape of armature mmf in alternators for 60° phase spread armature winding :



62. A 400 V, 50 Hz alternator is working at full load and 0.8 pf lagging. The load is thrown off by keeping frequency at rated value. The rise in voltage from rated value is 50V. The voltage regulation is

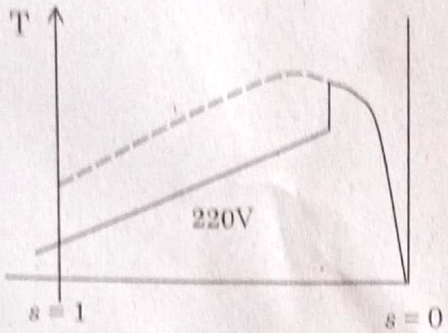
(A) 15%
(B) 8%
(C) 20%
(D) 12.5%

63. A 3–ph induction motor is drawing a current of 30 A at 0.8 pf lag from 3–ph mains at certain load. Due to fault a line gets opened. Now the current on single phasing when pf is 0.6 lag, would be

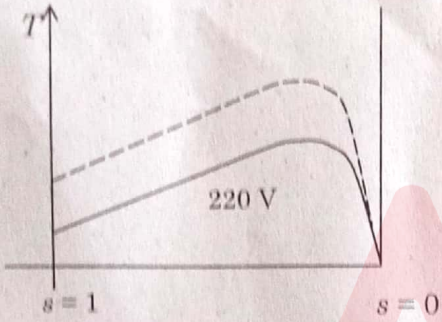
(A) $20\sqrt{3}$A
(B) $30\sqrt{3}$A
(C) $35\sqrt{3}$A
(D) $40\sqrt{3}$A

64. A 440 V induction motor is started with reduced voltage of 220 V to reduce starting current. After motor picks up speed, full rated voltage is applied. Pick up corresponding s–T characteristics for the operation

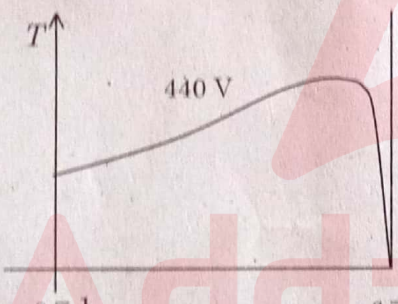
(A)



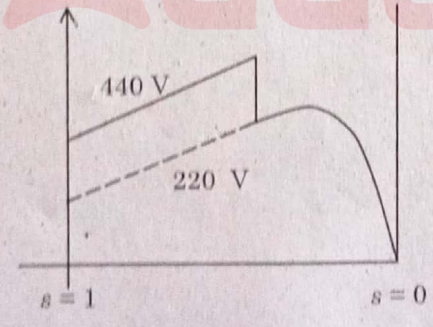
(B)



(C)



(D)



65. A single phase transformer has a resistance of 0.1 pu and reactance of 0.4 pu. Its voltage regulation at full load 0.8 pf lag would be

(A) 16%
(B) 32%
(C) 25%
(D) 30%

66. A 3–phase induction motor designed to operate on 60 Hz has a full load output of 10 kW. It is operated from 50 Hz, keeping volts/Hz constant. Its full load output would be approximately

(A) 7.3 kW (B) 10 kW

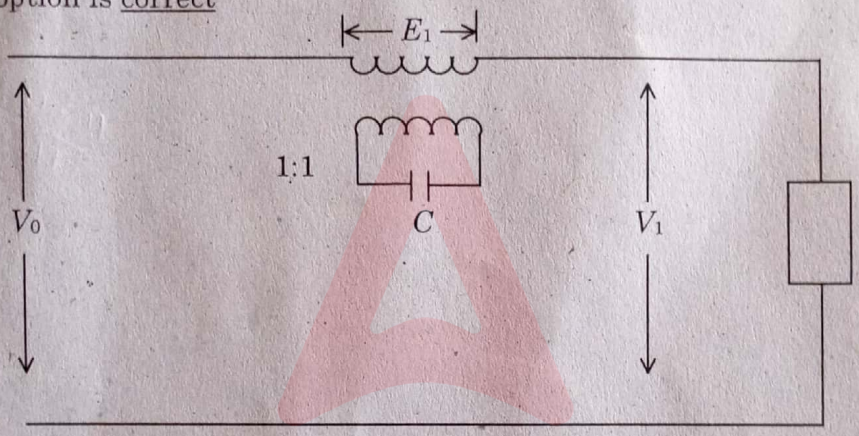
(C) 8.3 kW (D) 12 kW

67. The synchronizing power coefficient per mechanical degree for alternator in terms of p (pole pair) P (power output), α (load angle)

(A) $\frac{180}{p\pi}\frac{dP}{d\alpha}$ watts (B) $\frac{180\pi}{p}\frac{dP}{d\alpha}$ watts

(C) $\frac{p\pi}{180}\frac{dP}{d\alpha}$ watts (D) $\frac{P\pi}{p}\frac{dp}{d\alpha}$ watts

68. Given the following circuit with a transformer, neglecting magnetizing current, following option is correct



(A) $V_1 < V_0$ for lagging pf load (B) $V_1 = V_0$ for leading pf load

(C) $V_1 > V_0$ for leading pf load (D) $V_1 > V_0$ for lagging pf load

69. If an auto transformer is made from a two winding transformer, given turns ratio $\frac{N_1}{N_2} = a$

The ratio

$$\frac{\text{Magnetising current of auto transformer}}{\text{Magnetising current of two winding transformer}}$$

(A) $\frac{a-1}{a}$ (B) $\frac{a}{a-1}$

(C) $\frac{a^2-1}{a}$ (D) $\frac{a}{a^2-1}$

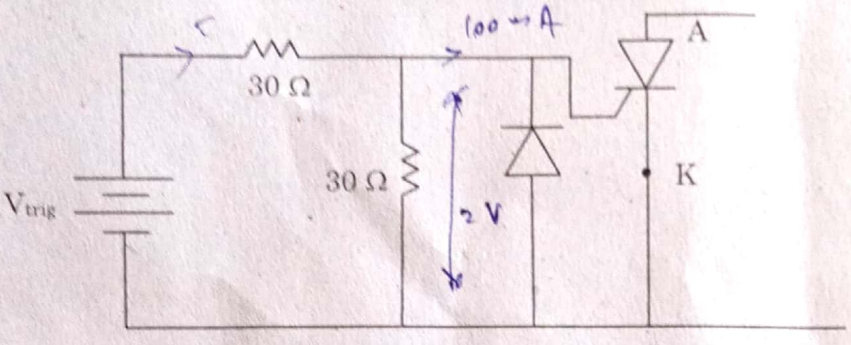
70. A 3–phase synchronous motor has a reactance of 0.4 pu and excited to an emf of 1.2 pu. The power output/phase when load angle is 30°

(A) 1.0 pu (B) 1.5 pu

(C) 0.75 pu (D) 1.2 pu

71. The gate triggering circuit shown below has the specifications :

$I_g(\min) = 100\text{mA}$ $V_g(\min) = 2\text{V}$



The V_{trig} should be

(A) 7 V (B) 9 V

(C) 12 V (D) 7.5 V

72. A 3–phase fully controlled rectifier fed from 200 V, 3–phase, 50 Hz supply is fired at $\alpha = 45^\circ$. The average output voltage is

(A) $\frac{100\sqrt{2}}{\pi}$ volts (B) $\frac{200\sqrt{2}}{\pi}$ volts

(C) $\frac{300}{\pi}$ volts (D) $\frac{600}{\pi}$ volts

73. The firing sequence of switches for a 3–ph bridge inverter is given below :

1, 5, 6	2, 6, 1	3, 1, 2	4, 2, 3	5, 3, 4	6, 4, 5
I	II	III	IV	V	VI

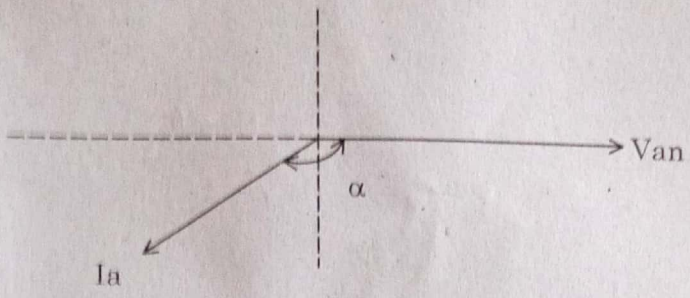
Each interval is of 60° duration

The mode of conduction is

(A) 120° mode (B) 180° mode

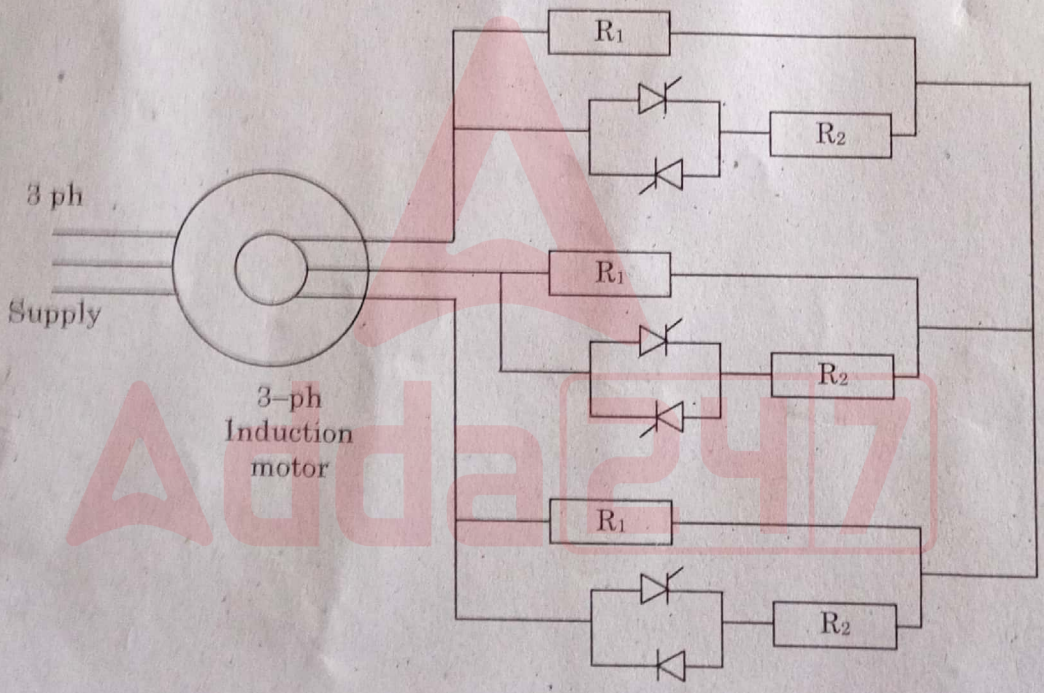
(C) 90° mode (D) 240° mode

74. The following phasor diagram represents fundamental components of voltage and current on ac side of a 3–ph controlled bridge rectifier. The mode of operation is



(A) Rectifier
(B) Inverter
(C) Bridge Idle
(D) Amplifier

75.



In the above circuit connected on rotor side of 3–ph slip ring induction motor, the effective resistance put into rotor circuit/phase when $\alpha = 180^{\circ}$ is

(A) R_2
(B) $R_1 + R_2$
(C) R_1
(D) $R_1 // R_2$

76. The real part of propagation constant of a transmission line is

(A) Phase constant
(B) Attenuation constant
(C) Stability constant
(D) Reliability factor

77. When the conductors of a three-phase circuit are not spaced equilaterally, the transposition is done to

(A) Decrease the line inductance
(B) Increase the line capacitance
(C) Balance the three phases of the circuit
(D) Increase the line resistance

78. The zero-sequence current will not flow in the

(A) L-G fault
(B) L-L-G fault
(C) L-L fault
(D) L-L-L-G fault

79. The steady-state stability limit of a two machine system depends on

(A) Per unit reactance of the power system
(B) Power input
(C) Power factor of the system
(D) Per unit power input of the system

80. Capacitor switching is easily done with

(A) Oil circuit breaker
(B) Air blast circuit breaker
(C) Vacuum circuit breaker
(D) Both (A) and (B)

81. In subsequent iteration, a voltage-controlled bus is treated as a load bus when its

(A) Active power limit is violated

(B) Voltage limit is violated

(C) Reactive power limit is violated

(D) Current limit is violated

82. A 50 Hz, 4 pole alternator rated at 20 MVA, 13.2 kV has an inertia constant H = 4 kWsec/kVA. The KE stored in the rotor at synchronous speed is

(A) 80 kJ

(B) 80 MJ

(C) 40 MJ

(D) 20 MJ

83. FDLF method is suitable for

(A) High voltage transmission system

(B) Medium voltage transmission system

(C) Distribution system

(D) None of the above

84. The angular acceleration of a generator in electrical degrees/sec^2 with data : 20 MVA, 11 kV, 50 Hz, 4-pole, inertia constant (H) 9.0 kW-s/kVA. The input power = 26,800 HP and output power = 16 MW

(A) 300.5

(B) 250.5

(C) 220.5

(D) 199.5

85. Consider six identical machines connected to the same bus-bar, each having an H of 5 MJ/MVA and rated at 60 MVA. Making the system base equal to the combined rating of the machine (360 MVA), the inertia constant (in MJ/MVA) of the equivalent machine is

(A) 5
(B) 10
(C) 15
(D) 20

86. The relation between sequence currents in LL-fault is

(A) $I_{a1} = -I_{a2}$
(B) $I_{a1} = I_{a2} = I_{a0}$
(C) $I_{a1} = -I_{a0}$
(D) $I_{a2} = -I_{a0}$

87. The Jacobian Matrix of Newton – Raphson (Polar) form provides the information pertaining to

(A) Real Power Flow
(B) Reactive Power Flow
(C) Losses
(D) Sensitivity information

$(2n-m-1)$ $P-$ $20-6+1$ $20-5=15$

88. A power system consists of 10 buses, one Slack bus, three P-V buses and six load buses. Number of equations required to solve Load Flow using Newton — Raphson (Polar) form is

(A) 10
(B) 15
(C) 20
(D) 25

89. The conductors of 1.6 km long, 3-phase, 3.3 kV overhead lines are in horizontal formation with 762 mm between centres. The effective diameter of the conductors is 3.5 mm. The equivalent spacing (in mm) is

(A) 560
(B) 762
(C) 960
(D) 862

90. In power system simulation studies, the transmission line is modelled as Π because

(A) Number of node (s) are more in T-model
(B) Number of node(s) are less than T model
(C) In both the cases Π and T model node(s) are equal
(D) There are no node(s) at all either in Π or T model

91. The active power in a transmission line can be controlled using

(A) Series Capacitor
(B) Shunt Capacitor
(C) Shunt Inductor
(D) Phase Shifting Transformer

92. In rotor angle stability, condition for stability is

(A) $[dP/d\delta]=0$
(B) $[d\delta/dt]=0$
(C) $[dV/dt]=0$
(D) $[dQ/d\delta]=0$

93. A large power system is represented by Thevenin's equivalent. The E_{th} and Z_{th} are $0.9\angle 0^{\circ}$ pu and $0.25\angle 90^{\circ}$ pu respectively. If a shunt capacitor bank is connected to raise the bus voltage to 1.0 pu, the MVAR rating of the capacitor bank is (assume base MVA 100 and base kV 138)

(A) 10
(B) 20
(C) 30
(D) 40

94. The sequence reactance of an equipment is as follows : $X_1 = X_2$ and $X_0 = 3.X_1$

The element is

(A) Synchronous machine

(B) Transformer

(C) Transmission line

(D) Induction Motor

95. Equal Area Criterion (EAC) is a method to determine

(A) Steady State Stability

(B) Small Signal Stability

(C) Frequency Stability

(D) Transient Stability

96. In a particular lamp light red objects appear black. This is due to

(A) colour mixing

(B) high wave length of red colour

(C) absence of red light from lamp radiation

(D) absorption of red light by lamp

97. An area of $(20 \times 5) m^2$ is to be illuminated with average illumination of 75 lux. Taking coefficient of utilization 0.5 and maintenance factor 0.8, total number of lamens required is

(A) 18750

(B) 16800

(C) 20500

(D) 16200

$L = \frac{20 \times 5 \times 75 \times 5 \times 8}{5 \times 10}$

$= \frac{75 \times 40}{2}$

$= 1500$

Test Prime
By Adda247

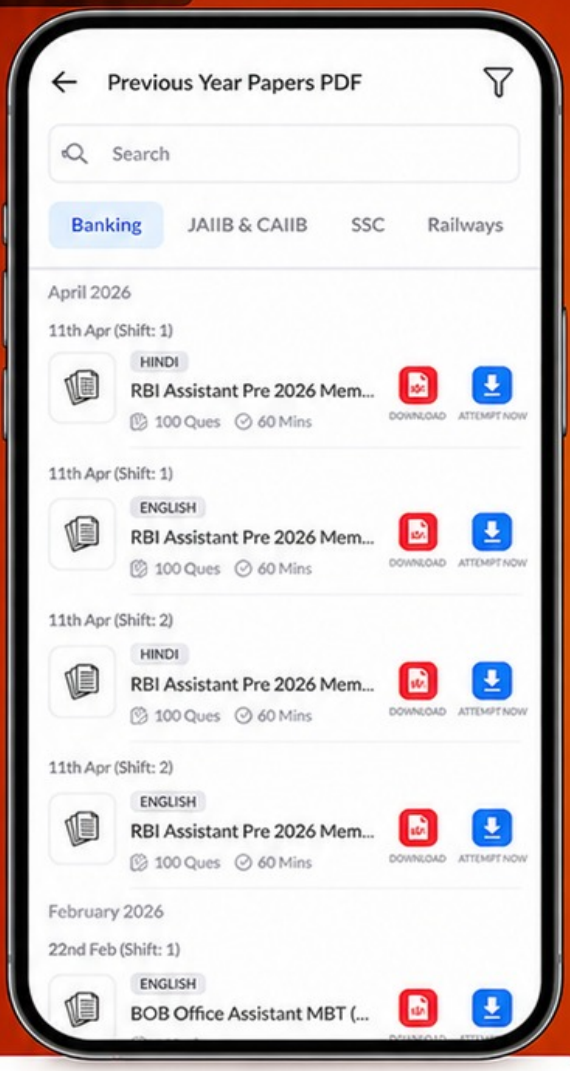
Previous Year Papers PDF

PRACTICE MORE, SCORE HIGHER!

PDF

Free 25,000+ PDF's

High-Quality | Exam-Wise | Updated Regularly



ATTEMPT AS MOCK

Turn PDFs into real exam experience.
Analyze. Improve. Succeed.

- Topic-wise & Exam-wise PDFs
- Download & Study Offline
- Attempt as Mock & Track Score
- Smart Analysis & Performance

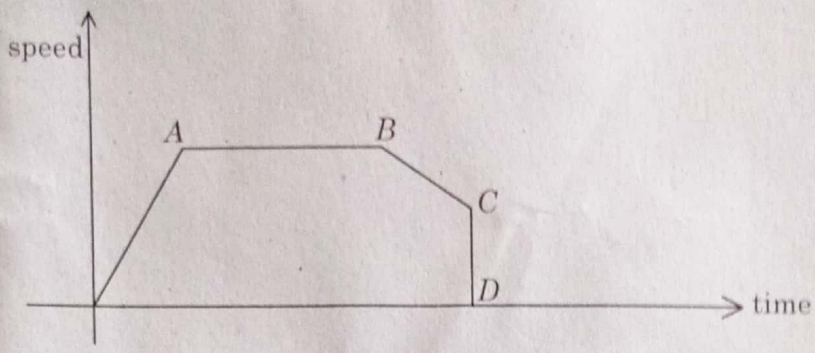
AVAILABLE IN

Banking | SSC | Railway | Teaching | UGC | Agriculture | Nursing

Bihar | UP | Punjab | WB | Odisha | TN | AP & Telangana | Haryana

DOWNLOAD THE APP

98. The speed–time curve of main-line service is illustrated in the following figure:



The segment AB represents

(A) coasting
(B) free running
(C) acceleration
(D) braking

99. An electric toaster consists of two resistance elements of each 100 ohms. The power drawn from 250 V ac supply when the elements are connected in series

(A) 1250 watts
(B) 1800 watts
(C) 450 watts
(D) 312.5 watts

100. Read the assertion (A) and reason (R) carefully and pick up correct option

(A) : Electric resistance spot welding is the best known and most widely used type of welding.

(R) : Electric resistance spot welding is cheap in cost, fast in action and can be performed by a semi-skilled operator.

(A) Both (A) are (R) are true and (R) is correct explanation of (A).
(B) Both (A) are (R) are true and (R) is not correct explanation of (A).
(C) (A) is true but (R) is false.
(D) (A) is false but (R) is true.