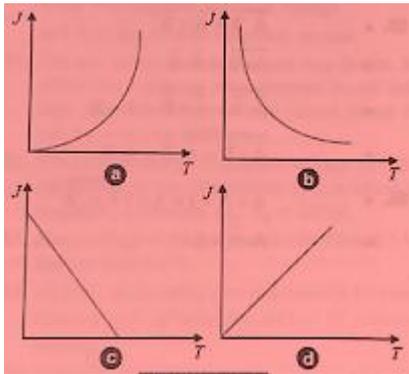
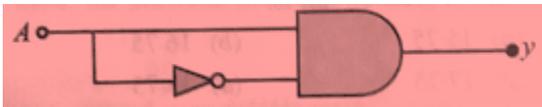


1. An antenna uses electromagnetic waves of frequency 5 MHz. For proper working, the size of the antenna should be
 - a) 15 m
 - b) 300 m
 - c) 15 km
 - d) 3 km
2. A toroid has 500 turns per metre length. If it carries a current of 2 A, the magnetic energy density inside the toroid is
 - a) 0.628 J/m^3
 - b) 0.314 J/m^3
 - c) 6.28 J/m^3
 - d) 3.14 J/m^3
3. Light waves can be polarised, because they
 - a) Have high frequencies
 - b) Have short wavelength
 - c) Are transverse
 - d) Can be reflected
4. The magnetism of magnet is due to
 - a) The spin motion of electron
 - b) Earth
 - c) Pressure of big magnet inside the earth
 - d) Cosmic rays
5. To a fish in water, a bird in air appears to be at 30cm from the surface. If ${}^a\mu_w = 4/3$, then the true distance of the bird from the surface is
 - a) 40cm
 - b) 22.5cm
 - c) 80cm
 - d) None of the above
6. The frequency of an alternating current is 50 Hz. What is the Minimum time taken by current to reach its peak value from rms value?
 - a) $5 \times 10^{-3} \text{ s}$
 - b) $2.5 \times 10^{-3} \text{ s}$
 - c) 0.02 s
 - d) $10 \times 10^{-3} \text{ s}$

7. Two metal plates are separated by 2 cm. The potentials of the plates are -10 V and +30 V. The electric field between the two plates is
- 500 V/m
 - 1000 V/m
 - 2000 V/m
 - 3000 V/m
8. The graph between the diode saturation current density J and The temperature T is (select the answer in the diagram)



9. What is the Boolean expression for the gate circuit shown in the below figure

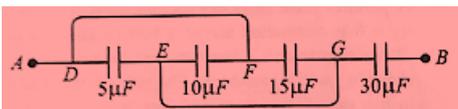


- $A \cdot 0 = 0$
 - $A \cdot \bar{A} = 0$
 - $A \cdot 1 = A$
 - $A \cdot A = A$
10. Though the electron drift velocity is small and electron charge is very small, a conductor can carry an appreciably large current because
- electron number density is very large
 - drift velocity of electron is very large
 - electron number density depends on temperature
 - relaxation time is small
11. Masses of three wires of copper are in the ratio 1 : 3 : 5 and their lengths are in the ratio 5 : 3 : 1. The ratio of their electrical resistance are
- 1:3:5
 - 5:3:1

- c) 1:15:125
d) 125:15:1
12. During inelastic collision between two objects, which of the following quantity always remains conserved?
a) Total kinetic energy
b) Total mechanical energy
c) Total linear momentum
d) Speed of each body
13. A particle having mass 0.5 kg is projected under gravity with a speed of 98 m/sec at an angle 60° . The magnitude of the change in momentum (in kg m/s) after 10 sec is
a) 49
b) 98
c) 4.9
d) 9.8
14. In Rutherford experiment, for head-on collision of α -particles with a gold nucleus, the impact parameter is
a) zero
b) of the order of 10-14 m
c) of the order 10-10m
d) of the order of 10-6m
15. A satellite appears to be at rest when seen from the equator. Its height from earth's surface is nearly: ($g = 9.8 \text{ m/s}^2$, $R = 6.4 \times 10^6 \text{ m}$)
a) 35800 km
b) 358000 km
c) Such a satellite cannot exist
d) 6400 km
16. Two protons are kept at a separation of 10nm. Let F_n and F_e be The nuclear force and the electromagnetic force between them
a) $F_e = F_n$
b) $F_e \gg F_n$
c) $F_e \ll F_n$
d) F_e and F_n differ only slightly

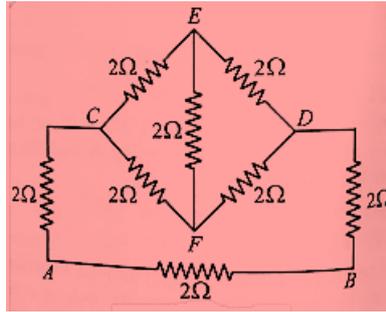
17. When a liquid in a glass vessel is heated, its apparent expansion is $10.30 \times 10^{-4}/^{\circ}\text{C}$. When the same liquid is heated in a metal vessel, its apparent expansion is $10.06 \times 10^{-4}/^{\circ}\text{C}$. If the coefficient of linear expansion of glass = $9 \times 10^{-6}/^{\circ}\text{C}$, What is the coefficient of linear expansion of metal?
- $51 \times 10^{-6}/^{\circ}\text{C}$
 - $17 \times 10^{-6}/^{\circ}\text{C}$
 - $25 \times 10^{-6}/^{\circ}\text{C}$
 - $43 \times 10^{-6}/^{\circ}\text{C}$
18. A wire is stretched such that its volume remains constant. The Poisson's ratio of the material of the wire is
- 0.50
 - 0.25
 - 0.25
 - 0.50
19. The phase difference between two points separated by 0.8 m in a wave of frequency 120 Hz is 0.5π . The wave velocity is
- 144 m/s
 - 256 m/s
 - 384 m/s
 - 720 m/s

20. The resultant capacitance between the points A and B in below figure is

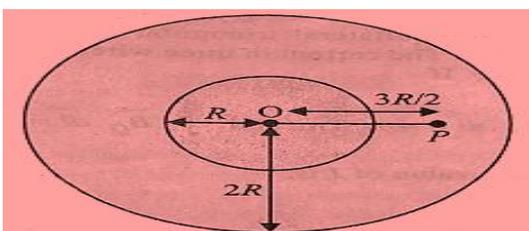


- $15 \mu\text{F}$
- $30 \mu\text{F}$
- $60 \mu\text{F}$
- $45 \mu\text{F}$

21. The resistance of the following circuit between A and B is



- a) $(3/2) \Omega$
 b) 2Ω
 c) 4Ω
 d) 8Ω
22. Due to Doppler's effect the shift in wavelength observed is 0.1 \AA for a star producing wavelength 6000 \AA . Velocity of recession of the star will be
 a) 25 km/s
 b) 10 km/s
 c) 5 km/s
 d) 20 km/s
23. The torque required to hold a small circular coil of 10 turns, $2 \times 10^{-4} \text{ m}^2$ area and carrying 0.5 A current in the middle of a long solenoid of 1000 turns/m carrying 3 A current, with its axis perpendicular to the axis of solenoid, is
 a) $12 \pi \times 10^{-7} \text{ Nm}$
 b) $6 \pi \times 10^{-7} \text{ Nm}$
 c) $4 \pi \times 10^{-7} \text{ Nm}$
 d) $2 \pi \times 10^{-7} \text{ Nm}$
24. Below figure shows the cross-sectional view of the hollow cylindrical conductor with inner radius R and outer radius $2R$. The cylinder is carrying uniformly distributed current along its axis. The magnetic field induction at point P at a distance $3R/2$ from the axis of cylinder will be



- a) zero
- b) $\frac{5\mu_0 I}{18 \pi R}$
- c) $\frac{5\mu_0 I}{36 \pi R}$
- d) $\frac{5\mu_0 I}{72 \pi R}$
25. A certain charge $2Q$ is divided at first into two parts q_1 and q_2 . Later the charges are placed at a certain distance. If the force of interaction between two charges is maximum then
- a) 4
- b) 2
- c) 1
- d) 0.5
26. The phenomenon involved in the reflection of radio-waves by ionosphere is similar to
- a) reflection of light by plane mirror
- b) total internal reflection of light in air during a mirage
- c) dispersion of light by water molecules during the formation
- d) scattering of light by air particles
27. In a step down transformer, use of 120 V line, provides a potential difference of 2400 V. If the primary coil has 75 turns, number of turns in secondary coil is
- a) 1500
- b) 150
- c) 1200
- d) 1575
28. An alternating voltage $E = 200 \sin (100 t)$ volt is connected to a $1 \mu\text{F}$ capacitor through an A.C. ammeter. The reading of ammeter is
- a) 10 mA
- b) 80 mA
- c) 40mA
- d) 20mA
29. Kirchoff's junction rule is a reflection of
- a) Conservation of current density vector

- b) Conservation of energy
 - c) Conservation of momentum
 - d) Conservation of charges
30. An aluminium sphere is dipped into water. Which of the following is true?
- a) Buoyancy will be less in water at 0°C than that in water at 4°C
 - b) Buoyancy will be more in water at 0°C than that in water at 4°C
 - c) Buoyancy in water at 0°C will be same as that in water at 4°C
 - d) Buoyancy may be more or less in water at 4°C depending on the radius of the sphere.

CHEMISTRY

31. Which of the following pairs of compounds of carbon will undergo combustion as well as addition reactions.
- a) CH_4 and C_2H_6
 - b) $\text{C}_2\text{H}_6\text{O}$ and $\text{C}_3\text{H}_8\text{O}$
 - c) $\text{C}_2\text{H}_4\text{O}_2$ and $\text{C}_3\text{H}_6\text{O}$
 - d) C_2H_2 and C_3H_6
32. An element X (atomic number 12) reacts with another element Y (atomic number 17) to form a compound Z. Which of the following statements are true regarding this compound?
- I. Molecular formula of Z is XY_2
 - II. It is soluble in water
 - III. X and Y are joined by sharing of electrons
 - IV. It would conduct electricity in the molten state.
- a) (II) and (III)
 - b) (I) and (III)
 - c) (I), (II) and (IV)
 - d) (III) and (IV)
33. A salt can be between produced by reaction
- A. a weak acid and weak base
 - B. metal oxide and water
 - C. metal and a mineral acid
 - D. metal oxide and a mineral acid
- a) A, B and C
 - b) B, C and D

- c) C, D and A
d) D, A and B
34. The number of oxygen atoms in 4.4 gm of CO₂ is,
a) 1.2 X 10²³
b) 6 x 10²³
c) 6 x 10²²
d) 12 x 10²³
35. In the reaction; Fe(OH)₃(s) \rightleftharpoons Fe³⁺(aq) + 3OH⁻(aq) if the concentration of OH ions is decreased by 1/4 times, then the equilibrium concentration of Fe³⁺ will increase by,
a) 8 times
b) 64 times
c) 16 times
d) 4 times
36. Equilibrium constants K₁ and K₂ for the following equilibria
(a) NO (g) + 1/2 O₂ (g) \rightleftharpoons NO₂(g)
(b) 2NO₂ (g) \rightleftharpoons 2NO (g) + O₂ (g)
a) K₁=√K₂
b) K₂=1/K₁
c) K₁=2K₂
d) K₂=1/K₁²
37. Consider the following sets of quantum numbers: Which of the below setting is not permissible arrangement of electrons in an atom?
- | n | l | m | s |
|------|---|----|------|
| a) 4 | 0 | 0 | -1/2 |
| b) 5 | 3 | 0 | +1/2 |
| c) 3 | 2 | -2 | -1/2 |
| d) 3 | 2 | -3 | +1/2 |
38. The increasing order of bond order of O₂, O₂⁺, O₂⁻ and O₂²⁻
a) O₂, O₂⁺, O₂⁻, O₂²⁻
b) O₂⁺, O₂, O₂⁻, O₂²⁻
c) O₂²⁻, O₂⁻, O₂⁺, O₂
d) O₂²⁻, O₂⁻, O₂, O₂⁺

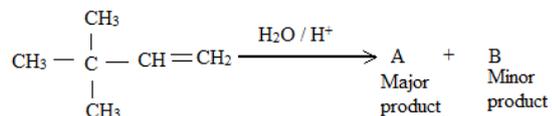
39. Main axis of diatomic molecule is Z, The orbitals P_x and P_y overlap to form
- π - molecular orbital
 - δ -molecular orbital
 - σ - molecular orbital
 - No bond is formed.
40. The statement that is NOT correct is
- Angular quantum number signifies the shape of the orbital
 - Energies of stationary states in hydrogen like atoms is inversely proportional to the square of the principal quantum number
 - Total number of nodes for 3s orbital is three.
 - The radius of the first orbit of He^+ is half that of the first orbit of hydrogen atom.
41. Density of carbon monoxide is maximum at
- 2 atm and 600 K
 - 0.5 atm and 273 K
 - 6 atm and 1092 K
 - 4 atm and 500 K
42. The pair of compounds having identical shapes for their molecules is
- CH_4 , SF_4
 - BCl_3 , ClF_3
 - XeF_2 , BeCl_2
 - SO_2 , CO_2
43. The correct arrangement for the ions in the increasing order of their radii is,
- Na^+ , Cl^- , Ca^{+2}
 - Ca^{+2} , K^+ , S^{2-}
 - Na^+ , Al^{+3} , Be^{+2}
 - Cl^- , F^- , S^{2-}
44. The correct arrangement of the species in the decreasing order of the bond length between carbon and oxygen in them is
- CO , CO_2 , HCO_3^- , CO_3^{2-}
 - CO_3^{2-} , CO , CO_2 , HCO_3^- ,
 - CO_3^{2-} , HCO_3^- , CO_2 , CO
 - CO , CO_2 , CO_3^{2-} , HCO_3^-

45. For the properties mentioned, the correct trend for the different species is in
- strength as Lewis acid – $\text{BCl}_3 > \text{AlCl}_3 > \text{GaCl}_3$
 - inert pair effect – $\text{Al} > \text{Ga} > \text{In}$
 - oxidising property – $\text{Al}^{+3} > \text{In}^{+3} > \text{Tl}^{+3}$
 - first ionization enthalpy – $\text{B} > \text{Al} > \text{Tl}$
46. The species that is not hydrolysed in water is
- P_4O_{10}
 - BaO_2
 - Mg_3N_2
 - CaC_2
47. The statement that is NOT correct is
- Compressibility factor measures the deviation of real gas from ideal behaviour.
 - Van der Waals constant ‘a’ measures extent of intermolecular attractive forces for real gases.
 - Critical temperature is the lowest temperature at which liquefaction of a gas first occurs.
 - Boyle point depends on the nature of real gas.
48. If $K < 1.0$, what will be the value of ΔG° out of the following?
- 1.0
 - Zero
 - Negative
 - Positive
49. Molar heat capacity of water in equilibrium with ice at constant pressure is
- zero
 - infinity
 - $40.50 \text{ kJ K}^{-1} \text{ mol}^{-1}$
 - $75.48 \text{ J K}^{-1} \text{ mol}^{-1}$
50. Based on lattice energy and other considerations, which one of the following alkali metal chlorides is expected to have the highest melting point?
- LiCl
 - NaCl
 - KCl

- d) RbCl
51. Among the halogen derivatives of ethane, the one which has highest boiling point is
- C₂H₅F
 - C₂H₅Cl
 - C₂H₅Br
 - C₂H₅I
52. The reaction, $2\text{H}_2\text{O}_2 \longrightarrow 2\text{H}_2\text{O} + \text{O}_2$ is an example of
- Disproportionation reaction
 - neutralization reaction
 - double decomposition reaction
 - pyrolytic reaction
53. For H₃PO₃ and H₃PO₄, the correct choice is
- H₃PO₃ is dibasic and reducing
 - H₃PO₄ is dibasic and non- reducing
 - H₃PO₄ is tribasic and reducing
 - H₃PO₃ is tribasic and non- reducing
54. Which of the following acts as a π-acid ligand?
- F-
 - O²⁻
 - CO
 - NH₃
55. The human body doesn't produce
- Enzymes
 - DNA
 - Vitamins
 - Harmones
56. Aldol is
- β-hydroxybutyraldehyde
 - α-hydroxybutanal
 - β-hydroxypropanal
 - none of the above
57. Amoxicillin is semi-synthetic modification of

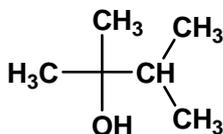
- a) Penicillin
- b) streptomycin
- c) Tetracycline
- d) Chloramphenicol

58. In the following reaction,

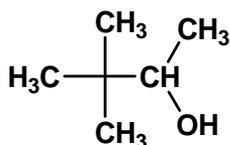


The major product is

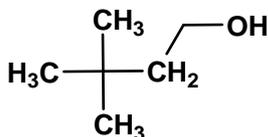
a)



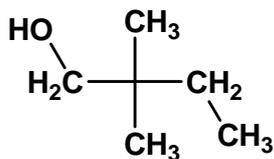
b)



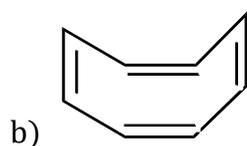
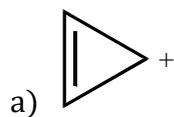
c)

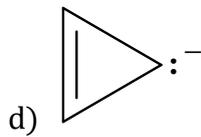
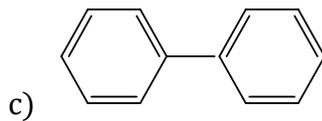


d)



59. Four structures are given in options (a) to (d). Examine them and select the aromatic structures.





60. Which of the following sets of reactants is used for preparation of paracetamol from phenol?

- a) HNO_3 , H/Pd , $(\text{CH}_3\text{CO})_2\text{O}$
- b) H_2SO_4 , H_2Pd , $(\text{CH}_3\text{CO})_2\text{O}$
- c) $\text{C}_6\text{H}_5\text{N}_2\text{Cl}$, SnCl_2/HCl , $(\text{CH}_3\text{CO})_2\text{O}$
- d) $\text{Br}_2/\text{H}_2\text{O}$, Zn/HCl , $(\text{CH}_3\text{CO})_2\text{O}$

Mathematics

61. if $(x - 1, x + 3) = (3, y)$ then $(x, y) =$

- a) (2, 4)
- b) (4, -6)
- c) (4, 7)
- d) (4, -5)

62. The angle between the hands of a clock when the time is 3:20 p.m.

is

- a) $\frac{\pi}{18}$
- b) $\frac{\pi}{9}$
- c) $\frac{\pi}{6}$
- d) $\frac{\pi}{8}$

63. The value of $\cos^{-1}\left(\cos \frac{13\pi}{6}\right) =$

- a) $\frac{\pi}{3}$
- b) $\frac{13\pi}{6}$
- c) $\frac{\pi}{6}$
- d) 0

64. The sum to n terms of $1 + 3 + 5 + \dots$ is

- a) n

- b) $1/3$
- c) $1/4$
- d) 2

71. Let $A = \begin{pmatrix} 1 & 2 \\ 0 & 1 \end{pmatrix}$ then A^n is

- a) $\begin{pmatrix} 1 & 2^n \\ 0 & 1 \end{pmatrix}$
- b) $\begin{pmatrix} 2 & n \\ 0 & 1 \end{pmatrix}$
- c) $\begin{pmatrix} 1 & 2n \\ 0 & 1 \end{pmatrix}$
- d) $\begin{pmatrix} 1 & n \\ 0 & 1 \end{pmatrix}$

72. If $A = \begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix}$, then $A^2 + A^3$ is equal to

- a) $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$
- b) $\begin{pmatrix} 2 & 5 \\ 0 & 2 \end{pmatrix}$
- c) $\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$
- d) $\begin{pmatrix} 5 & 2 \\ 2 & 0 \end{pmatrix}$

73. The value of $\begin{vmatrix} 12 & 0 & 0 \\ 4 & 3 & 0 \\ 2 & 2 & -3 \end{vmatrix}$ is

- a) 108
- b) -108
- c) 12
- d) -72

74. The cofactor of the element -3 in the determinant $\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$ is

- a) 46
- b) 19
- c) -20
- d) 30

75. The area of the triangle whose vertices are A(1, -1, 2), B(2, 1, -1) and C(3, -1, 2) is

- a) $4\sqrt{5}$
- b) $2\sqrt{3}$

c) $\sqrt{13}$

d) $\sqrt{15}$

76. The distance of (3, -7) from the x-axis is

a) 3

b) 7

c) 4

d) 2

77. The center of the circle $x^2 + y^2 - 8x + 16y - 17 = 0$ is

a) (4, -8)

b) (2, 3)

c) (-8, 16)

d) (-2, 8)

78. Equation of the plane perpendicular to the plane $2x + 6y + 5z = 11$ is

a) $2x + 3y - 4z = 5$

b) $3x - 2y + 4z = 7$

c) $4x + 5y - 5z = 3$

d) $x + 3y - 4z = 5$

79. The value of $\lim_{x \rightarrow 0} \frac{x}{\sqrt{4-x} - \sqrt{4+x}}$ is

a) 2

b) -2

c) 4

d) -5

80. If $y = \sec(xe^x)$ then $\frac{dy}{dx}$ at $x = 0$ is

a) 0

b) 1

c) 3

d) 4

81. If $y = \sqrt{x + \sqrt{x + \dots \dots \infty}}$ then $\frac{dy}{dx}$ is

a) $\frac{1}{1-2y}$

b) $\frac{1}{2y-1}$

c) $\frac{x}{2y-1}$

d) $\frac{1}{2y+1}$

82. The slope of the tangent to the curve $x^2 + y^2 - 4x - 2y + 1 = 0$ at $(2, -1)$ is

- a) 0
- b) -44
- c) 4
- d) 5

83. The value of $\int (2x + 3)^3 dx$ is

- a) $\frac{2x+3}{8}$
- b) $\frac{(2x+3)^6}{6} + c$
- c) $\frac{(2x-3)^4}{8} + c$
- d) $\frac{(2x+3)^4}{8} + c$

84. The value of $\int_0^{\pi/8} \cos^3 4\theta d\theta$ is

- a) $1/3$
- b) $1/5$
- c) $1/6$
- d) $7/3$

85. Smaller area enclosed by the circle $x^2 + y^2 = 4$ and the line $x + y = 2$ is equal to

- a) $2(\pi - 2)$
- b) $\pi - 2$
- c) $2\pi - 1$
- d) $\pi + 1$

86. The degree of the differential equation of which $y^2 = 4a(x + a)$ is

- a) 0
- b) 1
- c) 2
- d) 3

87. Calculate the standard deviation of the series 1, 3, 4, 5, 7.

- a) 2
- b) 3
- c) 7

- d) -7
88. Variance of first 10 multiple of 3.
- a) 74.25
 - b) 74.3
 - c) 74.2
 - d) 74.4
89. If two dice are thrown together what are the odds in favour of getting equal number?
- a) 5:1
 - b) 3:2
 - c) 2:3
 - d) 1:5
90. In a non-leap year the probability of getting 53 Sundays or 53 Tuesdays or 53 Thursdays is
- a) $1/7$
 - b) $2/7$
 - c) $3/7$
 - d) $4/7$

ENGLISH

91. Choose the appropriate answer to fill in the blank in the given sentence.

I was watching TV when she _____ in.

- a) comes
- b) came
- c) come
- d) was coming

Select the correctly spelt words in the following two questions.

- 92.
- a) Aceleration
 - b) Aceeleration
 - c) Acceleration
 - d) Accalaration
- 93.
- a) Recruitment
 - b) Recuitment

- c) Reccruitment
- d) Recruittment

Fill in the blank spaces with the appropriate word:-

94. The child was cured _____ typhoid.
- a) From
 - b) Of
 - c) For
 - d) Through
95. I saw a _____ of cows standing on the road.
- a) Group
 - b) Herd
 - c) Swarm
 - d) Flock
96. They are _____ with you behaviour.
- a) Please
 - b) Pleased
 - c) Pleasure
 - d) Being pleasure
97. On seeing the police, the robber started
- a) Run
 - b) Ran
 - c) Running
 - d) Runs
98. My shoes need _____.
- a) Mend
 - b) To mend
 - c) Mending
 - d) Being mended
99. My uncle will come _____ a week.
- a) with
 - b) before
 - c) at
 - d) within
100. My father will retire from service _____ a year.

- a) of
b) on
c) in
d) by
101. She is good _____ Mathematics.
a) in
b) about
c) for
d) at
102. Joe wants to become _____ university professor.
a) a
b) an
c) the
d) no article
103. It is _____ absurd story.
a) a
b) an
c) the
d) no article
104. Are you attending _____ wedding today?
a) a
b) an
c) the
d) no article
105. Am going to _____ work.
a) a
b) an
c) the
d) no article
106. The king died _____.
a) hareless
b) heirless
c) hairless
d) airless

107. The child is _____ young to go to school

- a) two
- b) to
- c) too
- d) none

Choose the word which is most nearly the same in meaning as the word given -

108. Replenish :

- a) reinstall
- b) refill
- c) refuse
- d) polish

109. Plagiarism :

- a) theft of funds
- b) theft of ideas
- c) belief in Gods
- d) arson

110. Mediocre :

- a) medieval
- b) industrial
- c) agricultural
- d) average

Choose from the options, the appropriate meanings for the *italicised* phrases.

111. Do not trust a man who *blows his own trumpet*.

- a) flatters
- b) praises others
- c) praises himself
- d) admonishes others

112. In the organised society of today no individual or nation can *plough a lonely furrow*.

- a) remain unaffected
- b) do without the help of others
- c) survive in isolation
- d) remain non-aligned

Select the appropriate plural forms for the following nouns.

113. Woman

- a) womens
- b) womans
- c) women
- d) womanses

114. Child -

- a) childs
- b) children
- c) childrens
- d) child's

115. Select the correct question tag for the following sentence.

Indian team has beaten the Australian team.

- a) does it?
- b) hasn't it?
- c) has it?
- d) is it?

Select the proper prefixes for the following words.

116. Danger

- a) er
- b) ous
- c) ed
- d) en

117. Impressive

- a) de
- b) in
- c) un
- d) out

118. Merit

- a) re
- b) di
- c) de
- d) dis

119. University

- a) pre

- b) under
- c) over
- d) sub

120. Large

- a) in
- b) en
- c) on
- d) out

LOGICAL REASONING

Direction: Read the below passage carefully and answer the questions:

The government of an island nation is in the process of deciding how to spend its limited income. It has \$7 million left in its budget and eight programs to choose among. There is no provision in the constitution to have a surplus, and each program has requested the minimum amount they need; in other words, no program may be partially funded. The programs and their funding requests are:

- * Hurricane preparedness: \$2.5 million
- * Harbor improvements: \$1 million
- * School music program: \$0.5 million
- * Senate office building remodeling: \$1.5 million
- * Agricultural subsidy program: \$2 million
- * National radio: \$0.5 million
- * Small business loan program: \$3 million
- * International airport: \$4 million

121. Senators from urban areas are very concerned about assuring that there will be funding for a new international airport. Senators from rural areas refuse to fund anything until money for agricultural subsidies is appropriated. If the legislature funds these two programs, on which of the following could they spend the rest of the money?

- a) The school music program and national radio
- b) Hurricane preparedness
- c) Harbor improvements and the school music program
- d) Small business loan program

122. If the legislature decides to fund the agricultural subsidy program, national radio, and the small business loan program, what two other programs could

they fund?

- a) Harbor improvements and international airport
- b) Harbor improvements and school music program
- c) Hurricane preparedness and school music program
- d) Hurricane preparedness and international airport

123. If the legislature decides to fund the agricultural subsidy program, national radio, and the small business loan program, the only other single program that can be funded is

- a) Hurricane preparedness.
- b) Harbor improvements.
- c) School music program.
- d) Senate office building remodelling

Direction: In each question below is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.

124. **Statement:** "You are hereby appointed as a programmer with a probation period of one year and your performance will be reviewed at the end of the period for confirmation." - A line in an appointment letter.

Assumptions:

- I. The performance of an individual generally is not known at the time of appointment offer.
 - II. Generally an individual tries to prove his worth in the probation period.
- a) Only assumption I is implicit
 - b) Only assumption II is implicit
 - c) Neither I nor II is implicit
 - d) Both I and II are implicit

125. **Statement:** It is desirable to put the child in school at the age of 5 or so.

Assumptions:

- I. At that age the child reaches appropriate level of development and is ready to learn.
 - II. The schools do not admit children after six years of age.
- a) Only assumption I is implicit

- b) Only assumption II is implicit
- c) Either I or II is implicit
- d) Neither I nor II is implicit

126. **Statement:** "In order to bring punctuality in our office, we must provide conveyance allowance to our employees." - In charge of a company tells Personnel Manager.

Assumptions:

- I. Conveyance allowance will not help in bringing punctuality.
- II. Discipline and reward should always go hand in hand.

- a) Only assumption I is implicit
- b) Only assumption II is implicit
- c) Either I or II is implicit
- d) Neither I nor II is implicit

127. **Statement:** Unemployment allowance should be given to all unemployed Indian youth above 18 years of age.

Assumptions:

- I. There are unemployed youth in India who needs monetary support.
- II. The government has sufficient funds to provide allowance to all unemployed youth.

- a) Only assumption I is implicit
- b) Only assumption II is implicit
- c) Either I or II is implicit
- d) Neither I nor II is implicit

128. **Statement:** "If you trouble me, I will slap you." - A mother warns her child.

Assumptions:

- I. With the warning, the child may stop troubling her.
- II. All children are basically naughty.

- a) Only assumption I is implicit
- b) Only assumption II is implicit
- c) Either I or II is implicit
- d) Neither I nor II is implicit

Direction: In each of the following questions, two statements numbered I and II are given. Read both the statements in each question and mark your answer as

129. **Statements:**

- I. There is unprecedented increase in the number of young unemployed in comparison to the previous year.
- II. A large number of candidates submitted applications against an advertisement for the post of manager issued by a bank.
 - a) Statement I is the cause and statement II is its effect
 - b) Statement II is the cause and statement I is its effect
 - c) Both the statements I and II are independent causes
 - d) Both the statements I and II are effects of independent causes

130. **Statements:**

- I. The police authority has recently caught a group of house breakers.
- II. The citizens group in the locality have started night vigil in the area.
 - a) Statement I is the cause and statement II is its effect
 - b) Statement II is the cause and statement I is its effect
 - c) Both the statements I and II are independent causes
 - d) Both the statements I and II are effects of some common cause

Direction: Each of the following questions contains a small paragraph followed by a question on it. Read each paragraph carefully and answer the question given below it.

131. The attainment of individual and organizational goals is mutually interdependent and linked by a common denominator - employee work motivation. Organizational members are motivated to satisfy their personal goals, and they contribute their efforts to the attainment of organizational objectives as means of achieving these personal goals.
- The passage best supports the statement that motivation -
- a) Encourages an individual to give priority to personal goals over organizational goals.
 - b) Is crucial for the survival of an individual and organization.
 - c) Is the product of an individual's physical and mental energy,
 - d) Is the external force which induces an individual to contribute his efforts
132. Due to enormous profits involved in smuggling, hundreds of persons have been attracted towards this anti-national activity. Some of them became millionaires overnight. India has a vast coastline both on the Eastern and Western Coast. It has been a heaven for smugglers who have been carrying

on their activities with great impunity. There is no doubt, that from time to time certain seizures were made by the enforcement authorities, during raids and ambush but even allowing these losses the smugglers made huge profits.

The passage best supports the statement that

- a) Smuggling hampers the economic development of a nation.
- b) Smuggling ought to be curbed.
- c) Authorities are taking strict measures to curb smuggling.
- d) Smuggling is fast increasing in our country owing to the quick profit it entails.

133. Though the waste of time or the expenditure on fashions is very large, yet fashions have come to stay. They will not go, come what may. However, what is now required is that strong efforts should be made to displace the excessive craze for fashion from the minds of these youngsters.

The passage best supports the statement that:

- a) Fashion is the need of the day.
- b) The excessive craze for fashion is detrimental to one's personality.
- c) The hoard for fashion should be done away with so as not to let down the constructive development.
- d) Work and other activities should be valued more than the outward appearance.

Direction: In each series, look for the degree and direction of change between the numbers. In other words, do the numbers increase or decrease, and by how much

134. Look at this series: 31, 29, 24, 22, 17, ... What number should come next?
- a) 15
 - b) 14
 - c) 13
 - d) 12
135. Look at this series: 14, 28, 20, 40, 32, 64, ... What number should come next?
- a) 52
 - b) 56
 - c) 96
 - d) 128
136. Look at this series: 2, 4, 6, 8, 10, ... What number should come next?

- a) 11
- b) 12
- c) 13
- d) 14

Direction: A good way to figure out the relationship in a given question is to make up a sentence that describes the relationship between the first two words. Then, try to use the same sentence to find out which of the answer choices completes the same relationship with the third word.

137. Elated is to despondent as enlightened is to

- a) Aware
- b) Ignorant
- c) Miserable
- d) Tolerant

138. Reptile is to lizard as flower is to

- a) Petal
- b) Stem
- c) Daisy
- d) Alligator

139. Play is to actor as concert is to

- a) Symphony
- b) Musician
- c) Piano
- d) Percussion

140. Sponge is to porous as rubber is to

- a) Massive
- b) Solid
- c) Elastic
- d) Inflexible

Direction: In these series, you will be looking at both the letter pattern and the number pattern. Fill the blank in the middle of the series or end of the series.

141. CMM, EOO, GQQ, _____, KUU

- a) GRR

- b) GSS
c) ISS
d) ITT
142. QPO, NML, KJI, _____, EDC
a) HGF
b) CAB
c) JKL
d) GHI
143. JAK, KBL, LCM, MDN, _____
a) OEP
b) NEO
c) MEN
d) PFQ

Direction: Each question given below consists of a statement, followed by two arguments numbered I and II. You have to decide which of the arguments a 'strong' argument is and which a 'weak' argument is

144. **Statement:** Should India encourage exports, when most things are insufficient for internal use itself?

Arguments:

- I. Yes. We have to earn foreign exchange to pay for our imports.
II. No. Even selective encouragement would lead to shortages.
- a) Only argument I is strong
b) Only argument II is strong
c) Either I or II is strong
d) Neither I nor II is strong
145. **Statement:** Should all the drugs patented and manufactured in Western countries be first tried out on sample basis before giving license for sale to general public in India?

Arguments:

- I. Yes. Many such drugs require different doses and duration for Indian population and hence it is necessary.
II. No. This is just not feasible and hence cannot be implemented.
- a) Only argument I is strong

- b) Only argument II is strong
- c) Either I or II is strong
- d) Neither I nor II is strong

146. **Statement:** Should India make efforts to harness solar energy to fulfill its energy requirements?

Arguments:

- I. Yes, Most of the energy sources used at present is exhaustible.
- II. No. Harnessing solar energy requires a lot of capital, which India lacks in.
 - a) Only argument I is strong
 - b) Only argument II is strong
 - c) Either I or II is strong
 - d) Neither I nor II is strong

Direction: A good way to figure out the relationship in a given question is to make up a sentence that describes the relationship between the first two words. Then, try to use the same sentence to find out which of the answer choices completes the same relationship with the third word.

147. Exercise is to gym as eating is to

- a) Food
- b) Dieting
- c) Fitness
- d) Restaurant

148. Candid is to indirect as honest is to

- a) Frank
- b) Wicked
- c) Truthful
- d) Untruthful

149. Guide is to direct as reduce is to

- a) Decrease
- b) Maintain
- c) Increase
- d) Preserve

150. Oar is to rowboat as foot is to

- a) Running

- b) Sneaker
- c) Skateboard
- d) Jumping