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PREVIOUS PAPER

Assistant Loco Pilot
KOLKATA
Based on Memory

1. P.Gopichand is associate with:

1) Tennis 2) Golf 3) Badminton
4) Hockey 5) Squash

2. $\int e^x \sin\left(x + \frac{\pi}{4}\right) dx =$

1) $\frac{e^x}{\sqrt{2}} \sin x + C$ 2) $\sqrt{2e^x} \sin x + C$

3) $\frac{e^x}{\sqrt{2}} \cos x + C$ 4) $\sqrt{2e^x} \cos x + C$

5) None of these

3. Which oxide of nitrogen is formed when ammonium nitrate is heated?

1) NO 2) NO_2 3) N_2O
4) N_2O_5 5) O_2

4. Energy in the sun is produced as a result of:

1) Fusion 2) Combustion
3) Explosion 4) Thermo nuclear Fission
5) Friction

5. Ampere is used to measure:

1) Temperature 2) Current 3) Light 4) Weight
5) None of these

6. If f(x) is a polynomial of degree n and $\Delta f(x) = f(x+h) - f(x)$, then $\Delta^n f(x)$ is a polynomial of degree-

1) n 2) n-1 3) 1-n
4) 1 5) n-2

7. The strongest reducing agent among the following acids is:

1) Formic acid 2) Acetic Acid

3) Propionic Acid 4) Chloro Acetic Acid

5) Nitric Acid

8. The amount of heat required to convert 5 gms of ice at -20°C to steam at 100°C is:

1) 675 calorie 2) 3775 calorie 3) 3650 calorie

4) 3725 calorie 5) 400 calorie

9. Princess Diana was killed in a car accident in:

1) UK 2) Italy 3) France

4) Russia 5) Spain

10. India plays two matches each with west Indies and Australia. In any match probabilities of India getting points 0, 1, 2 are $\frac{9}{20}, \frac{1}{20}$ and $\frac{1}{2}$ respectively. Assuming that the outcomes are at least 7 points is:

1) $\frac{3}{80}$ 2) $\frac{5}{80}$ 3) $\frac{7}{80}$

4) $\frac{1}{80}$ 5) $\frac{1}{10}$

11. If $\frac{3}{4}$ th quantity of a radio active element decays in one hour, its half life period will be:

1) 2 hours 2) $3\frac{1}{2}$ hours 3) $\frac{1}{4}$ hours

4) $\frac{1}{3}$ hours 5) None of the above

12. Bernoulli's theorem is applicable to-

1) Flow of liquids 2) Viscocity

3) Surface tension 4) Static fluid pressure

5) elasticity

13. Tulsidas became famous during the reign of-

1) Sher shah suri 2) Humayun 3) Shahjahan

4) Akbar 5) Jehangir

14. The co - efficient of correlation between two variables x and y is 0.5, and their co - variance is 16. If the standard deviation of x is 4, then the standard deviation of y is-

1) 4 2) 16 3) 64

4) 8 5) 2

15. Amino acids are produced by the hydrolysis of-

1) Fat 2) Carbohydrates 3) Protiens

4) Nucleic Acid 5) All of the above

16. The colours of thin film result due to-

1) disperation of light 2) scattering of light

3) polarization of light 4) selective absorption of light

5) interference of light

17. The series 'BDFH' is related to "JLNP" in the same way as "RTVX" is related to-

1) YZAB 2) STMN 3) ZBDF

4) ZBFD 5) None of these

18. If $\log_5 (6 + \frac{2}{x}) + \log \frac{1}{5} (1 + \frac{x}{10}) \leq 1$, then x lies in:

1) $(-\infty, 1-\sqrt{5}) \cup (1 + \sqrt{5}, \infty)$ 2) $(1, 1 + \sqrt{5})$

3) $(1-\sqrt{5}, 1 + \sqrt{5})$ 4) $(1-\sqrt{5}, 1)$

5) None of these

19. "The Sphinx" is located in-

1) Egypt 2) Iraq 3) China

4) Europe 5) Japan

20. Susceptibility of the air medium is-

1) Positive 2) Negative 3) Zero

4) One 5) $\frac{1}{\sqrt{2}}$

21. Which is the missing number in the following series?....., 10, 17, 26, 37

1) 06 2) 09 3) 05

4) 08 5) 04

22. Co – Ordinates of points of inflection of the normal curve is-

1) $m \pm \sigma$ 2) σ 3) m

4) $f(m \pm \sigma)$ 5) None of these

23. The first man to go into space was-

1) Neil Armstrong 2) Lyka 3) Yuri Gagarin

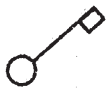
4) Edward Aldrin 5) Michael Collins

24. Electrolysis of aqueous solution of sodium succinate gives-

1) C_2H_6 2) C_2H_2 3) C_2H_4

4) C_3H_6 5) None of these

25. Pick the odd man out?

1)  2)  3)  4)  5) 

26. If n and p are the parameters of a binomial distribution, then its standard deviation is-

1) $\frac{1}{n}\sqrt{p\,(1-p)}$ 2) $\frac{1}{p}\sqrt{n\,(1-p)}$ 3) $\sqrt{np(1-p)}$

4) $\sqrt{np\,(1-n)}$ 5) None of these

27. Dr. Christian Barnard performed the first-

1) Kidney transplant 2) Liver transplant

3) Heart transplant 4) Pancreas transplant

5) Bone marrow transplant

28. All the radio active changes are-

1) Zero order reaction 2) First order reaction

3) Second order reaction 4) Third order reaction

5. Half order reaction

29. Four of the following pairs have a logical relationship. Which one of them does not?

1) SHOE : SOCK 2) COAT : SHIRT

3) CAP : TURBAN 4) NEEDLE : THREAD

5) CONTACT LENS : SPECTICLES

30. When two waves of same frequency and same amplitude travelling in opposite directions in a straight line overlaps they give rise to:

1) beats 2) interference 3) stationary waves

4) harmonics 5) None of these

31. Niagara Falls is one of the border of-

1) France & Germany 2) Nigeria & Congo

3) USA & Canada 4) Nigeria & Kenya

5) USA & Mexico

32. Which of the follwing electrolyte is least effecive in causing coagulation of ferric hydroxide solution?

1) KC*l* 2) K_2SO_4 3) K_2CrO_4

4) $K_3[Fe(CN)_6]$ 5) $K_2Cr_2O_7$

33. The atmosphere is held to the earth by:

1) Gravity 2) Surface tension 3) Ratation of earth

4) Sun 5) None of these

34. Polarization is a characteristic of-

1) light wave 2) sound wave 3) water wave

4) heat wave 5) none of these

35. The number of states in India is-

1) 25 2) 26 3) 27

4) 28 5) none of these

36. Oxidation of thiosulphate ion by I_2 gives:

1) SO_3^{-2} 2) $S_4O_6^{-2}$ 3) SO_4^{-2}

4) $S_2O_8^{-2}$ 5) None of these

37. If x < y, y < z and z > w, then which of the following will always be true?

1) x > w 2) y = 2 3) y > w

4) x < z 5) x < 2

38. The unit of luminous intensity is:

1) lumen 2) lux 3) candela

4) watt 5) light year

39. King Gyanendra is the king of

1) Bhutan 2) Nepal 3) Mauritius

4) Fiji 5) Maldives

40. Fehling's solution and Benedict's solution are reduced by glucose to form:

1) CuO 2) Cu_2O 3) $CuCO_2$

4) $Cu(OH)_2$ 5) None of these

41. If cos α, cos β, cos γ be the direction – cosines of a line, then $\sin^2 \alpha + \sin^2 \beta + \sin^2 \gamma =$

1) 1 2) 2 3) -1

4) 3 5) None of these

42. Which of the following materials is used for permanent magnets?

1) brass 2) coper 3) soft iron

4) steel 5) tungsten

43. The first Governor General of free India was-

1) Rajendra Prasad 2) C. Rajagopalachari

3) Lord Mountbatten 4) Padmaja Naidu

5) None of these

44. Which of the following solutions of NaC*l* has the lowest value of specific conductance-

1) 1 M 2) 0.1 M 3) 0.01 M

4) 0.001 M 5) 2 M

45. The probabilities of n independent events are p_1, p_2, ... p_n, then the probability that atleast one of the events will happen is:

1) $(p_1 - p_2)(p_2 - p_3) \ldots (p_{n-1} - p_n)$

2) $(1-p_1)(1-p_2) \ldots (1-p_n)$

3) $1-(1-p_1)(1-p_2)(1-p_3) \ldots (1-p_n)$

4) $1-p_1\, p_2\, p_3 \ldots pn$

5) None of these

46. In an electron microscope if the potential is increased from 20 KV to 80 KV, the resolving power 'R' of the microscope will be:

1) R 2) 2R 3) 4R

4) $\frac{R}{2}$ 5) $\frac{R}{4}$

47. 'R' is 'S's mother. 'Q' is 'T's mother, 'S' is 'Q's father and 'P' is 'T's sister. How is 'U' related to 'S'?

1) Grand father 2) Daughter 3) Grand mother

4) Grand daughter 5) None of these

48. Number of ions present in K_3 [Fe $(CN)_6$] are:

1) 2 2) 5 3) 3

4) 4 5) 9

49. If in a distribution each x is replaced by corresponding value of f(x), then the probability of getting xi, whose original probability is P*i* is-

1) P*i* 2) f (P*i*) 3) $\frac{1}{\text{P}i} f$

4) 1 (P*i*) 5) None of these

50. Band spectrum is produced by-

1) $H_{(1)}$ 2) He 3) H_2

4) Na 5) $H_{(g)}$

51. Rahul was born when his father was 32 year older than his brother and his mother was 25 years older than his sister. If Rahul's brother is 6 years older than him and his mother is three years younger than his father, what was Rahul's sister's age, when he was born?

1) 10 2) 6 3) 12

4) 14 5) None of these

52. The Capital of Australia is-

1) Sydney 2) Melbourne 3) Canberra

4) Brisbane 5) Chicago

53. The angle of elevation of the sun if the length of the shadow of a tower is $\sqrt{3}$ times the height of the tower is-

1) 30° 2) 60° 3) 45°

4) 150° 5) 90°

54. A bar magnet is dropped vertically downward through a wire loop held horizontally. The acceleration of the magnet will be:

1) g 2) greater than g 3) less than g

4) zero 5) None of these

55. Mohit is ranked 9^{th} from top and 14^{th} from the bottom half of the total number of students in the class. How many students are there in the class?

1) 46 2) 23 3) 24

4) 47 5) None of these

56. The world standard time is taken from-

1) Florence 2) Kentucky 3) Miami

4) Greenwich 5) Manhattan

57. The degree of the differential equation– $\left[1 + \left\{\frac{dy}{dx}\right\}^2\right]^{\frac{3}{2}} = \frac{d^2y}{dx^2}$ is:

1) 1 2) 2 3) 3
4) 4 5) 5

58. Soda ash is-

1) Na_2CO_3 2) Na_2CO_3, H_2O 3) Na_2CO_37, H_2O
4) Na_2CO_3, $10H_2O$ 5) None of these

59. Which group does not match in others?

1) seed 2) infant 3) interview
bud child posting
flower adult appointment
4) meeting 5) infection
love disease
marriage death

60. The largest ocean in the world is-

1) Atlantic Ocean 2) Indian Ocean 3) Pacific Ocean
4) Arctic Ocean 5) Black Sea

61. Value of $\int_0^1 x^2 (1 - x) \frac{3}{2} dx$ is:

1) $\frac{16}{315}$ 2) $\frac{16\pi}{315}$ 3) $\frac{32\pi}{315}$
4) $\frac{8\pi}{315}$ 5) $\frac{8}{315}$

62. A strong solution of alcoholic alkali will preferentially promote in alkyl halide:

1) Addition 2) Elimination 3) Substitution
4) Ionisation 5) Rearrangement

63. Which is the odd man out?

1) CAR 2) AEROPLANE 3) HELICOPTER
4) BUS 5) TRAIN

64. The heroine of the film "Mother India" was-

1) Meena Kumari 2) Nargis 3) Madhubala
4) Vaijayanthimala 5) Nimmi

65. If $J = \frac{\delta(u, v)}{\delta(x, y)}$ and $J' = \frac{d(u, v)}{d(x, y)}$, then $JJ' =$

1) zero 2) 2J 3) 2J'

4) –1 5) 1

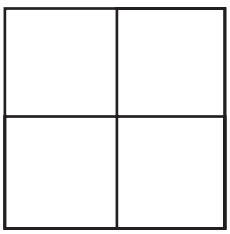
66. 2-pentanol and 3-pentanol can be distinguished by:

1) Lucas Test 2) Tollens reagent

3) Iodoform reaction 4) Victor Meyer's Method

5) Benedict's Solution

67. A total of how many squares + rectangles can be seen in the figure below?



1) 6 2) 8 3) 9

4) 10 5) None of these

68. Choreography is the art of-

1) Canvas painting 2) Creating dance

3) Writing 4) Computer Graphics

5) None of these

69. Which of the following has the greatest viscosity?

1) air 2) hydrogen 3) water

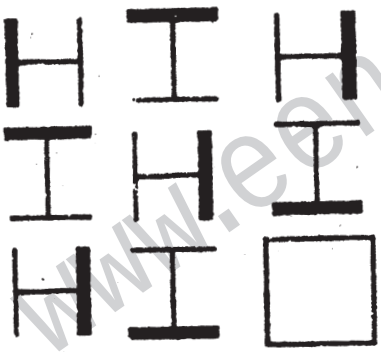
4) mercury 5) helium

70. Which of the following compounds is steam volatile?

1) phenol 2) p-nitrophenol 3) m-nitrophenol

4) o-nitrophenol 5) None of these

71. Which of the option fits into the vacant square?



1) 

2) 

3) 

4) 

5) 

72. Hamid Karzai is the President of-

1) Turkey 2) Iran 3) Afghanistan

4) Malaysia 5) Saudi Arabia

73. Radioactivity was discovered by-

1) Curie 2) Rutherford 3) Bacquerel

4) Roentgen 5) Thomson

74. A rare gas that was detected in the sun before it was discovered on earth is-

1) He 2) Ne 3) Ar

4) Kr 5) Xe

75. The plane $\frac{x}{3}+\frac{y}{4}+\frac{z}{5}=1$ cuts the axes in A, B, C.

The equation of the sphere through A, B, C and the origin is:

1) $x^2 + y^2 + z^2 + 3x + 4y + 5z = 0$

2) $x^2 + y^2 + z^2 - 3x - 4y - 5z = 0$

3) $2(x^2 + y^2 + z^2) + 3x + 4y + 5z = 0$

4) $2(x^2 + y^2 + z^2) - 3x - 4y - 5z = 0$

5) None of these

76. Hydrogen was discovered by-

1) Priestly 2) Boyle 3) Cavendish

4) Curve 5) Charles

77. Two electric bulbs designed to operate with a power of 500 watts in 220 volt line, are connected in series with a 110 volt line. The power generated by each bulb will be-

1) 31.25 watts 2) 3.125 watts 3) 22 watts

4) 62.5 watts 5) 11 watts

78. Natural rubber is a polymer of-

1) Styrene 2) Butadiene 3) Isoprene

4) Chloroprene 5) Ethylene

79. I A is a square matrix of order $n \times n$, then Adj (Adj A) is equal to:

1) $|A|^nA$ 2) $|A|^{n-1}A$ 3) $|A|^{n-2}A$

4) $|A|^{n-3}A$ 5) None of these

80. If 'AMERICA' is coded as 9542739 and 'UNITED' is coded as 017246, INIDICAR can be coded as-

1) 7176392 2) 7167932 3) 7157932

4) 9176392 5) 7167392

81. Heat from the sun reaches the earth by means of-

1) conduction 2) convection 3) radiation

4) diffusion 5) None of these

82. The percentage of nitrogen in urea is-

1) 40 2) 30 3) 46.6

4) 47.8 5) 47.3

83. The probability of getting 53 sundays in a leap year is-

1) $1\frac{1}{7}$ 2) $\frac{2}{7}$ 3) $\frac{3}{7}$

4) $\frac{4}{7}$ 5) 1

84. Ram takes 20 minutes to inspect a car, while Robert takes only 18 minutes. If both start inspecting cars at 8.00 hours what is the first time at which both will have finished inspecting a car at the same point of time?

1) 09.42 hrs 2) 10.00 hrs 3) 09.30 hrs.

4) 14.00 hrs 5) 11.00 hrs

85. The law λ mT = constant (T = temperature) is known as-

1) Raleigh Jean's Law 2) Newton's Law of Cooling

3) Wein's Displacement Law 4) Plack's Law

5) Fresnel's Law

86. The planet in the solar system which is closes to the sun is-

1) Mercury 2) Venus 3) Earth

4) Pluto 5) Moon

87. In a town of 10,000 families, it was found that 40% families buy newspaper A, 20% families buy newspaper B and 10% families buy newspaper C, 5% families buy A and B, 3% buy B and C, 4% buy A and C, then the number of families which buy none of A, B, C is-

1) 3,300 2) 3,500 3) 4,000

4) 4,200 5) 5,000

88. Insert the missing letter: C 4 K 2 O 3 .....

1) W 2) X 3) T

4) U 5) V

89. Which of the following hot bodies of the same material cools last?

1) a solid sphere 2) a solid cube 3) a solid cylinder

4) a solid rod 5) a solid cone

90. Kofi Annan is the Secretary General of?

1) WHO 2) UNO 3) ILO

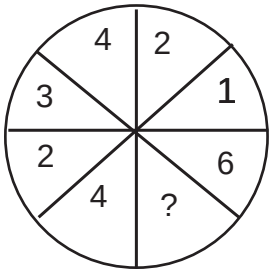
4) UNESCO 5) None of these

91. The diffrential equation of all non-horizontal lines in a plane is:

1) $\frac{d^2y}{dx^2} = 0$ 2) $\frac{dx^2}{dy^2} = 0$ 3) $\frac{dy}{dx} = 0$

4) $\frac{dx}{dy} = 0$ 5) None of these

92. Insert the missing number



1) 6 2) 8

3) 1 4) 2

5) 4

93. If the earth expands to twice its radius, the duration of a day will become-

1) 24 hrs. 2) 48 hrs. 3) 6 hrs.

4) 12 hrs. 5) 96 hrs.

94. Jallianwala Bagh massacre took place in-

1) Ambala 2) Jalandahar 3) Amritsar

4) Lahore 5) Panipat

95. If co-efficient of correlation r = 0, the two lines of regression are-

1) parallel to each other 2) Perpendicular to each other

3) skewed 4) make angle 45° to each other

5) None of these

96. Eight jury members are sitting in a circle. L is sitting between 'I and N', 'M' is to the right of 'I' but to the left of 'K', whose neighbour on the right is 'O'. 'J' has 'P' to his left and 'N' to his right. Which member is sitting diagonally opposite to 'I'?

1) M 2) L 3) P

4) O 5) K

97. Which of the following is optically active?

1) Formic Acid 2) Propionic Acid 3) Succinic Acid

4) Lactic Acid 5) Meso-tartaric Acid

98. The battle of Plassey was fought between Sirajud-Daulah and:

1) Warren Hastings
2) Lord Curzon
3) Robert Clive
4) Winston Churchill
5) None of these

99. Moment of inertia of a thin rod of length 'a' and mass 'm' about an axis passing through an end and perpendicular to the rod is given by-

1) MI = $\frac{1}{12}ma^2$
2) MI = $\frac{1}{4}ma^2$
3) MI = $\frac{1}{4}m^2a^2$
4) MI = $\frac{1}{3}ma^2$
5) MI = $\frac{1}{3}m^2a^2$

100. Pick the odd man out:

1) flower
2) branch
3) thorn
4) fruit
5) leaf

101. The atomic number of an element having $4f^1$ electronic configuration in the ground state is-

1) 54
2) 49
3) 56
4) 57
5) 58

102. The author of "God of small Things" is:

1) Salman Rushdie
2) Arundhati Roy
3) Rohinton Mistry
4) amit Chowdhury
5) Jhumpa Lahiri

103. The ball pen works on the principle of-

1) Visosity
2) Gravitational
3) Capillary action and surface tension
4) Boyle's law
5) Diffusion

104. If E is the shift operator and Δ is the forward difference operator then $E - \Delta$ =

1) 0
2) -1
3) 1
4) -2
5) 2

105. The temperature at which real gases obey ideal gas laws over wide range of pressure is called-

1) Critical temperature 2) Boyle temperature
3) Reduced temperature 4) Inversion temperature
5) Absolute temperature

106. The colours known as primary colours are-

1) red, yellow, green 2) red, blue, green
3) red, black, yellow 4) red, blue, yellow
5) red, green, black

107. Decibel is-

1) a measure of sound level 2) wavelength of noise
3) a musical instrument 4) the frequency of sound
5) a musical note

108. If A, B, C are non-singular $n \times n$ matrices, then $(ABC)^{-1}$ =

1) $A^{-1}B^{-1}C^{-1}$ 2) $A^{-1}C^{-1}B^{-1}$
3) $C^{-1}A^{-1}B^{-1}$ 4) $B^{-1}C^{-1}A^{-1}$
5) None of these

109. The first man to predict the inter – relationship of matter and energy is:

1) de Broglie 2) Bohr 3) Planck
4) Einstein 5) Rutherford

110. The capital of Uttaranchal is-

1) Nainital 2) Dehradun 3) Hardwar
4) Mussouri 5) None of these

111. The resistance of an ideal ammeter is-

1) low 2) high 3) infinite
4) zero 5) None fo these

112. For the matrix $A = \begin{bmatrix} 1 & 1 & 0 \\ 1 & 2 & 1 \\ 2 & 1 & 0 \end{bmatrix}$, Which is correct?

1) $A^3 + 3A^2 - I = 0$ 2) $A^3 - 3A^2 - I = 0$ 3) $A^3 + 2A^2 - I = 0$
4) $A^3 - A^2 + I = 0$ 5) None of these

113. Netaji Subhash Sports Complex is located at-

1) Patiala 2) Jalandhar 3) Kolkata

4) Chennai 5) New Delhi

114. 'V' to 'Z' are five houses in a row. 'V' is to the right of 'W'. 'Z' is to the left of 'X' and right of 'V'. 'W' is to the right of 'Y'. Which is the middle house?

1) Z 2) X 3) V

4) Y 5) W

115. A liquid drop breaks into number of droplets. Its surface energy?

1) increases 2) decreases 3) remains the same

4) becomes zero 5) None of these

116. Dialing a telephone number an old man forgets the last two digits remembering only that these are different and dials them at random. The probability that the number dialed correctly is-

1) $\frac{1}{45}$ 2) $\frac{1}{90}$ 3) $\frac{1}{100}$

4) $\frac{2}{45}$ 5) $\frac{1}{50}$

117. The main constituent of Marsh gas is-

1) CO 2) CO_2 3) SO_2

4) CH_4 5) C_2H_6

118. 'A' city is 5 km, east of 'B' city. 'C' city is 10 km. Southeast to city 'B'. Which of the following is the closest to the distance from city 'A' to city 'C'?

1) 12 km 2) 13 km 3) 14 km

4) 11 km 5) 15 km

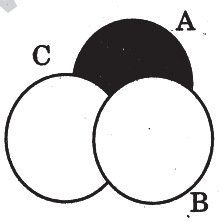
119. The voltage gain of a triode depends on-

1) filament voltage 2) plate current

3) plate voltage 4) filament current

5) plate resistance

120. The shaded region in the given figure is-



1) $A \cap (B \cup C)$ 2) $A \cup (B \cap D)$

3) $A \cap (B \sim C)$ 4) $A \sim (B \cup C)$

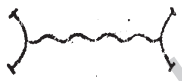
5) None of these

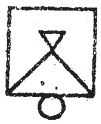
121. Catalyst used in Friedel crafts reaction is-

1) Na 2) K 3) ZnO

4) MnO_2 5) None of these

122. Pick the odd man out-

1)  2)  3) 

4)  5) 

123. A geo-stationary satellite revolves round the earth from-

1. East to West 2) North to South 3) South to North

4) West to East 5) North-East to South-West

124. If $\frac{dy}{dx} = e - 2y$ and $y = 0$ when $x = 5$, then the value of x when $y = 3$ is:

1) e^5 2) $e^6 + 1$ 3) $\frac{e^6 + 9}{2}$

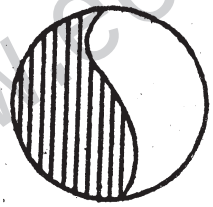
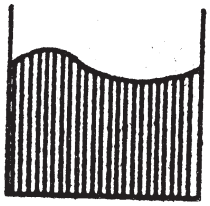
4) $\log_e 6$ 5) None of these

125. The Asian Games, 2002 were held in:

1) Japan 2) North Korea 3) South Korea

4) Taiwan 5) China

126. Which of the options below fits into the empty space?

1)  2)  3) 

4)  5) 

127. Two charged particles seperated by a distance 'y' attract each other with a force of 'x'. What will be the attraction if the distance is increased to 5y?

1) 25x 2) $\frac{x}{25}$ 3) x+25

4) x-25 5) $\frac{25}{x}$

128. The $(n+1)^{th}$ and higher order differences of a polynomial of n^{th} degree are:

1) n+1 2) n 3) n-l

4) n+2 5) Zero

129. What was the Day of week on 1947 August 15?

1) Friday 2) Wednesday 3) Sunday

4) Monday 5) Thursday

130. Which is the odd man out?

1) LONDON 2) NEW YORK 3) MUMBAI

4) SYDNEY 5) VENICE

131. Which of the following has no multiple bond?

1) HCN 2) N_2H_4 3) C_2H_4

4) CO_2 5) O_2

132. The most appropriate material for a cooking pot is the one having-

1) High specific heat and low conductivity

2) High specific heat and high conductivity

3) Low specific heat and low conductivity

4) Low specific heat and high conductivity

5) None of these

133. The first Indian to win the Nobel Prize was-

1) C. V. Raman 2) Hargobind Khorana

3) Rabindranath Tagore 4) Amartya Sen

5) Nirad C.Chaudhary

134. Insert the missing number- 8 12 10 16 12 ...

1) 18 2) 14 3) 20

4) 24 5) 32

135. An example of an alicyclic compound is-

1) Hexane 2) Pyrrole 3) Benzene

4) Cyclohexane 5) Anthracene

136. In a room fitted with green bulb a red cloth will appear to be-

1) red 2) yellow 3) orange

4) black 5) blue

137. Heathrow airport is in-

1) Paris 2) London 3) New York

4) Chicago 5) Sydney

138. If f(x, y, z) = 0 then $\frac{\delta x}{\delta y}, \frac{\delta y}{\delta z}, \frac{\delta z}{\delta x}$ is equal to:

1) 0 2) 1 3) -1

4) 2 5) None of these

139. Aqueous solution of $CuSO_4$ changes blue litmus to red due to-

1) Cu^{+2} ions present 2) SO_4^{-2} ions present

3) reduction taking place 4) oxidation taking place

5) hydrolysis taking place

140. X–Ray consist of stream of–

1) Protons 2) electrons 3) neutrons

4) photons 5) argons

141. The longest river in the world is-

1) Ganga 2) Volga 3) Nile

4) Hwang Ho 5) None of these

142. If the matrix A = $\begin{pmatrix} 1 & 1 \\ 2 & 2 \end{pmatrix}$ and B = $\begin{pmatrix} -1 & 1 \\ 1 & -1 \end{pmatrix}$, then

1) $\begin{pmatrix} 1 & 1 \\ 2 & 2 \end{pmatrix}$ 2) $\begin{pmatrix} -1 & 1 \\ 1 & -1 \end{pmatrix}$ 3) $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$

4) $\begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$ 5) $\begin{pmatrix} -1 & 1 \\ 2 & -2 \end{pmatrix}$

143. Of the following, an amphoteric hydroxide is-

1) $Ca(OH)_2$ 2) NaOH 3) NH_4OH

4) $Cu(OH)_2$ 5) $Zn(OH)_2$

144. The density of water is maximum at-

1) O°C 2) 4°C 3) O°F

4) 4°K 5) 273°K

145. Santoor is a-

1) Mughlai dish 2) Ornament 3) Musical instrument

4) Ceremonial dress 5) A fruit

146. A random variable has the following point distribution-

x	0	1	2	3	4	5	6	7
p(x)	0	p	2p	2p	3p	p^2	$2p^2$	$7p^2+p$

1) $\frac{1}{10}$ 2) -1 3) $\frac{-1}{10}$

4) $\frac{3}{10}$ 5) None of these

147. The element which exhibits variable valency is-

1) Zinc 2) silicon 3) aluminium

4) cobalt 5) None of these

148. The value of the absolute zero on the Fahrenheit scale is-

1) 273°F 2) −459.4°F 3) 0°F

4) −1827°F 5) −273°F

149. Photosynthesis is a process related to-

1) plants 2) animals

3) bacteria 4) colour photography

5) fish

150. A group of 10 items has mean 6. If the mean of 4 of these items is 7.5, then the mean of the remaining items are:

1) 6.5 2) 5.5 3) 4.5

4) 5.0 5) 4.0

151. Aromatic primary amine when treated with cold HNO_2 gives-

1) Nitrobenzene 2) Benzyl Alcohol 3) Phenol

4) Benzene 5) Diazonium Salt

152. The temperature at which the speed of sound in air becomes double of its value at 0°C is-

1) 1273°C 2) 546°C 3) 819°C

4) 1546°C 5) 1092°C

153. There are 4 dancers, 4 musicians, 1 actress and 3 singers in a group of 6 women. G and V are among the singers, S and T are among the dancers, while J and S are not singers. P is the actress, 'J, V, S and T are all musicians and 2 of them are also singers. Who is both a dancer and a singer?

1) T 2) S 3) J

4) V 5) G

154. If a<b, then-

1) $\frac{a+b}{2}$ <b 2) $\frac{a+b}{2}$ >b 3) $\frac{a+b}{2}$ <a

4) $\frac{a+b}{2}$> a 5) None of these

155. Which of the following is used as refrigerant?

1) CO_2 2) $CHCl_3$ 3v CF_2Cl_2

4) CH_3Cl_3 5) None of these

156. Lenz's Law is a consequence of the law of conservation of-

1) charge 2) momentum 3) mass

4) energy 5) angular momentum

157. What number fills the blanks in the series below? 3, 8, 22, 63, 185, ...

1) 310 2) 295 3) 550

4) 285 5) None of these

158. The angle between the two planes 3x-4x+5z = 0 and 2x-y-2z = 5 is-

1) $\frac{\pi}{2}$ 2) $\frac{\pi}{3}$ 3) $\frac{\pi}{4}$

4) $\frac{\pi}{6}$ 5) $\frac{2\pi}{3}$

159. The "Wright Brothers" credited with invention of aeroplane were-

1) Wilbur & Orville 2) Wilbur & John

3) William & Orville 4) William & John

5) William & Wilbur

160. The number of unpaired electrons in Chromium atom is:

1) 7 2) 5 3) 6

4) 4 5) 8

161. Which is the odd man out?

1)  2)  3)  4)  5) 

162. If the product of a matrix and its transpose is a unit matrix then the matrix is called-

1) symmetric matrix 2) skew symmetric matrix

3) null matrix 4) orthogonal

5) None of these

163. The Capital of Arunachal Pradesh is-

1) Agartala 2) Aizawi 3) Itanagar

4) Guwahati 5) Imphal

164. Pure H_2O_2 is-

1) Colourless liquid 2) A gas

3) Dark blue syrupy liquid 4) Pale blue syrupy liquid

5) None of these

165. Four out of the five groups of letters below are of the same type. Which is the odd group?

1) ADG 2) HKN 3) MOQ

4) ORU 5) JMP

166. In Electroplatting that which substance on plating is to take as follow-

1) as the anode 2) as the cathode

3) between anode and cathode 4) as the third electrode

5) near the electrolyte

167. "Missionaries of Charity" was founded by-

1) Sister Nivedita 2) Annie Besant

3) Mother Teresa 4) Swami Vivekananda

5) Florence Nightingale

ANSWERS

1-3; 2-1; 3-3; 4-1; 5-2; 6- 2; 7 -3; 8- 4; 9- 3; 10- 3; 11- 5; 12- 4; 13- 4; 14- 4; 15 3; 16- 5; 17- 3; 18- 1; 19- 1; 20- 3; 21- 3; 22- 1; 23- 3; 24- 2; 25- 5; 26- 5; 27- 3; 28- 2; 29- 3; 30- 3; 31- 3; 32- 1; 33- 1; 34- 1; 35- 4; 36- 2; 37- 4; 38- 3; 39- 2; 40- 2; 41- 2; 42- 3; 43- 3; 44- 4; 45- 3; 46- 1; 47- 5; 48- 4; 49- 1; 50- 5; 51- 1; 52- 3; 53- 1; 54- 3; 55- 5; 56- 4; 57- 2; 58- 1; 59- 3; 60- 3; 61- 1; 62- 2&3; 63- 5; 64- 2; 65- 1; 66- 3; 67- 5; 68- 2; 69- 4; 70- 2; 71- 2; 72- 3; 73- 3; 74- 1; 75- 2; 76- 3; 77- 4; 78- 3; 79- 3; 80- 5; 81- 3; 82- 3; 83- 2; 84- 5; 85- 3; 86- 1; 87- 4; 88- 3; 89- 1; 90- 2; 91- 1; 92- 2; 93- 3; 94- 3; 95- 2; 96- 3; 97- 4; 98- 3; 99- 4; 100- 3; 101- 5; 102- 2; 103- 3; 104- 3; 105- 3; 106- 2; 107- 1; 108- 5; 109- 1; 110- 2; 111- 1; 112- 2; 113- 1; 114- 3; 115- 1; 116- 2; 117- 4; 118- 4; 119- 3; 120- 4; 121- 5; 122- 2; 123- 4; 124- 3; 125- 3; 126- 1; 127- 2; 128- 5; 129- 1; 130- 3; 131- 5; 132- 4; 133- 3; 134- 3; 135- 4; 136- 4; 137- 2; 138- 1; 139- 1; 140- 4; 141- 3; 142- 4 143- 5; 144- 2; 145- 3; 146- 1; 147- 4 ;148- 3; 149- 1; 150- 4; 151- 5; 152- 3; 153- 1; 154- 1; 155- 3; 156- 4; 157- 3 158- 1; 159- 1; 160- 3; 161- 5; 162- 2; 163- 3 164- 4; 165- 3; 166- 2; 167- 3.