Jagran

INDIAN INTELLIGENCE TEST™

An Innovative Aptitude Test

SAMPLE PAPER

Confusion का Smart Solution

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Roll No.:

Maximum Marks: 300

Maximum Time: 90 (+30) minutes

CLASS 12

(Science Stream)

INSTRUCTIONS FOR CANDIDATE

1. The Question Paper comprises of two sections:

Section I: Multiple Intelligence Test (40 questions)

Section II: Scholastic Aptitude Test (100 questions)
Questions in Section I do not carry any marks whereas questions in Section II carry 3 marks each.

2. Question number 76 to 100 are different for PCM and PCB stream sections. Students of PCM have to attempt Mathematics questions while the students of PCB stream have to attempt Biology questions.
3. Duration for Section II of this test shall be 90 minutes. You will get additional 30 minutes to fill up information about yourself on the Answer Sheet and answer questions of Section I before start of the exam.
4. Answering all questions is compulsory in Section I but not in Section II.Section I of the test contains questions that you need to answer truthfully based on your preference. Do not provide fake responses otherwise you will not receive accurate analysis of your intelligence type.
5. Rank will be provided on the basis of Section II. Multiple Intelligence Report shall be provided on the basis of Section I.
6. For incorrect answers (in Section II), 1 mark would be deducted. For unanswered questions, no mark would be awarded or deducted.
7. Use of calculator, mobile phones or log tables is not permitted.
8. Fill the required details clearly on the Answer Sheet and do not overwrite.
9. There is only ONE correct answer. Choose only ONE option for an answer.
10. To mark your choice of answers by darkening the circles in the Answer Sheet, use an HB Pencil only.
11. Rough work should be done in the blank space provided on the last page in the booklet.
12. Return the Answer Sheet to the invigilator at the end of the exam.
13. Write your Roll No. on the Question Paper too.
14. Any use of unfair means in the test will result in termination of the candidature.

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SECTION-II: SCHOLASTIC APTITUDE TEST

QUESTIONS 1 TO 15: LOGICAL REASONING

1. Find the missing term(s) in the following questions:
   0, 3, 12, 30, ?, 105, 168
   (A) 63
   (B) 62
   (C) 61
   (D) 60

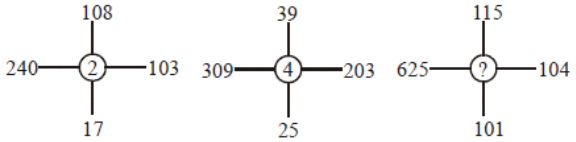
2. Find the missing term(s) in the following questions:
   11, 10, ?, 100, 1001, 1000, 10001
   (A) 101
   (B) 110
   (C) 111
   (D) None of these

3. Find the missing term(s) in the following questions:
   2, 7, 27, 107, 427, ?
   (A) 1262
   (B) 1707
   (C) 4027
   (D) 4207

4. In each of the following questions, four groups of letters are given. One of these groups is different from the other three. Find the odd one.
   (A) EMGIK
   (B) BHJFD
   (C) WUSQY
   (D) NOSUX

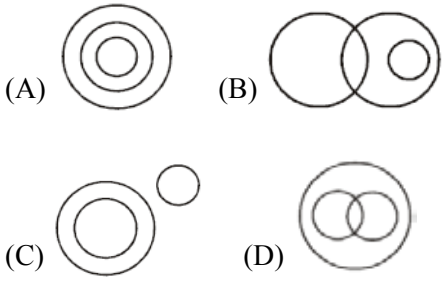
5. In each of the following questions, four groups of letters are given. One of these groups is different from the other three. Find the odd one.
   (A) ZGPKU
   (B) FRGSP
   (C) NEXFL
   (D) LANCP

6. Find the number in the position of "?"



   (A) 3
   (B) 5
   (C) 7
   (D) 8

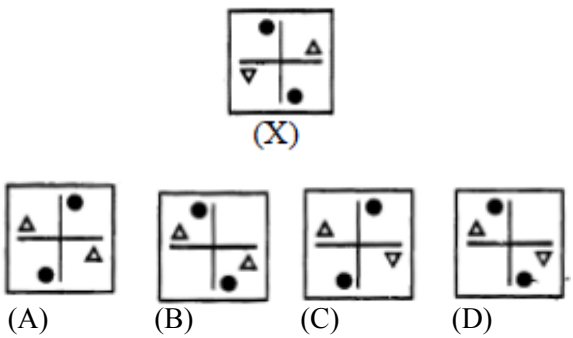
7. Given below are four possible membership schemes. In each case, mark the one you feel appropriate description of the three listed items.
   Triangles, Scalene-Triangles, Right-angled triangles



8. Satish remembers that his brother's birthday is after fifteenth but before eighteenth of February where as his sister Kajal remembers that her brother's birthday is after sixteenth but below nineteenth of February. On which day in February is Satish's brother's birthday?
   (A) 16th
   (B) 17th
   (C) 18th
   (D) 19th

9. If 30th January 2003 was Thursday, what was the day on 2nd March, 2003?
   (A) Tuesday
   (B) Thursday
   (C) Saturday
   (D) Sunday

10. In each of the following questions, you are given a combination of alphabets and/or numbers followed by four alternatives A, B, C and D. Choose the alternative which most closely resembles the water image of the given combination.



Direction (11-14) : Study the following information carefully and answer the questions given below it.

(1) P, Q, R, S,T and U are six members in a family in which there are two married couple.
(2) T, a teacher is married to the doctor who is mother of R and U.
(3) Q, the lawyer, is married to P.
(4) P has one son and one grandson.
(5) Of the two married ladies one is house-wife.
(6) There is one student and one male engineer in the family.

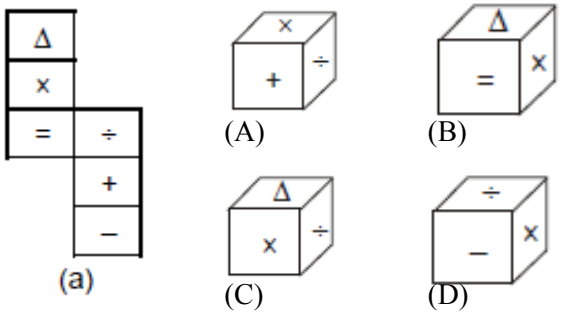
11. How is P related to R?
(A) Grandfather
(B) Mother
(C) Sister
(D) Grandmother

12. How is R related to U?
(A) Brother
(B) Sister
(C) Brother or Sister
(D) Data is insufficient

13. Which of the following represents the group of females in the family?
(A) PSR (B) PSU
(C) QTR (D) Data inadequate

14. Which of the following is true about the grand daughter in the family?
(A) She is a lawyer
(B) She is a student
(C) She is an engineer
(D) Data inadequate

15. The figure given below is the unfolded position of a cubical dice. In each of the following questions this unfolded figure is followed by four different figures of dice. You have to select the figure which is identical to the figure.



QUESTIONS 16 TO 25: GENERAL KNOWLEDGE

16. Which of the following states has become the first Indian state to launch Rotavirus vaccination project?
(A) Mizoram
(B) Himachal Pradesh
(C) Karnataka
(D) Rajasthan

17. Which of the following cities is the host for the first International Bird Festival?
(A) Agra
(B) Kota
(C) Indore
(D) Kolkata

18. Which of the following committees has submitted its report on 'Possible Tax rates under GST'?
(A) Jayati Ghosh committee
(B) Abhijit Banerjee committee
(C) Arvind Subramanian committee
(D) Kaushik Basu committee

19. Who has won the Abu Dhabi F1 Grand Prix 2015?
(A) Kimi Raikkonen
(B) Lewis Hamilton
(C) Jenson Button
(D) Nico Rosberg

20. Who of the following is honoured with 2015 Asian Business Leadership Forum (ABLF) Outstanding Business Achiever award?
(A) G M Rao
(B) Hinduja Brothers
(C) Kiran Mazumdar-Shaw
(D) Cyrus Mistry

21. The headquarters of Zoological Survey of India (ZSI) are located in which city?
(A) Bangalore
(B) Dehradun
(C) Kolkata
(D) Bhuvaneshwar

22. Which of the following defence forces of India has conducted the exercise 'Drad Sankalp'?
(A) Indian Army
(B) Indian Navy
(C) Indian Airforce
(D) None of the above

23. Which of the following vaccines is used in injectable inactivated polio vaccine (IPV) programme of India?
(A) BharatIPV vaccine
(B) ShanIPV vaccine
(C) NirmIPV vaccine
(D) SanofiIPV vaccine

24. On which date, the Armed Forces Flag Day is observed?
(A) December 2
(B) December 5
(C) December 7
(D) December 10

25. Which of the following railway zones of India has introduced biodiesel for trains, operating under its zone?
(A) Central Railways
(B) East Coast Railways
(C) East Central Railways
(D) South Western Railways

QUESTIONS 26 TO 50: PHYSICS

26. If energy(E), velocity(V) and time (T) are chosen as the fundamental quantities, then the dimensions of surface tension will be :- (Surface tension =force / length)
(A) $E\ V^{-2}T^{-1}$
(B) $E\ V^{-1}T^{-2}$
(C) $E{-}2\ V^{-1}T^{-3}$
(D) $E\ V^{-2}T^{-2}$

27. A tiger chases a deer 30m ahead of it and gains 3metre in 5 second after the chase began. The distance gained by the tiger in 10 second is :
(A) 6m
(B) 12m
(C) 18m
(D) 20m

28. A projectile can have the same range R for two angles of projection. If t1 and t2 be the times of flight in two cases then,
(A) $t_1t_2 \propto R^2$
(B) $t_1t_2 \propto R$
(C) $t_1t_2 \propto 1/R$
(D) $t_1t_2 \propto 1/R^2$

29. A body of mass 4 kg weighs 4.8 kg when suspended in a moving lift. The acceleration of the lift is
(A) $9.80ms^{-2}$ downwards
(B) $9.80ms^{-2}$ upwards
(C) $1.96ms^{-2}$ downwards
(D) $1.96ms^{-2}$ upwards

30. A ball rebounds after colliding with the floor, then in case of inelastic collision:
(A) the momentum of the ball before and after collision is same
(B) the mechanical energy of the ball is conserved
(C) the total momentum of the earth-ball system is conserved
(D) the total kinetic energy of earth and ball is conserved

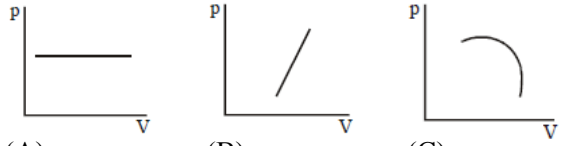
31. Which of the following statement is correct?
(A) centre of mass of an object always lie inside the object.
(B) centre of mass of an object always lie outside the object.
(C) centre of mass of an object may lie outside the object.
(D) centre of mass of an object always lie on boundary.

32. Which of the following parameters of a particle executing uniform Circular motion remains constant?
(P) speed (Q) radial acceleration (R) angular velocity
(A) P, Q
(B) Q, R
(C) P, R
(D) None of the above

33. If the radius of earth shrinks by 1.5% (mass remaining same), then the value of gravitational acceleration changes by
(A) –2%
(B) 2%
(C) –3%
(D) 3%

34. The reading of spring balance when a block is suspended from it in air, is 60N.This reading is changed to 40Nwhen the block is immersed in water. The specific gravity of the block is
(A) 3 (B) 2 (C) 6 (D) 3/2

35. Which of the pV, diagrams best represents an isothermal process?



(A) (B) (C)

36. An elongation of 0.1% in a wire of cross-sectional area 10–6m2 causes a tension of 100N. The Young's modulus is:

(A) 10^{12} N/m^2
(B) 10^{11} N/m^2
(C) 10^{10} N/m^2
(D) 10^{2} N/m^2

37. Two rods are of same material and have same length and area. Heat DQ flows through them in 12minutes, when they are joined side by side. If now both the rods are joined in parallel, then the same amount of heat DQ will flow in:

(A) 24min
(B) 12min
(C) 6min
(D) 3min

38. Four wires of identical length, diameters and of the same material are stretched on a sonometer wire. If the ratio of their tensions is 1 : 4 : 9 : 16, then the ratio of their fundamental frequency

(A) 16 : 9 : 4 : 1
(B) 4 : 3 : 2 : 1
(C) 1 : 4 : 2 : 16
(D) 1 : 2 : 3 : 4

39. During SHM, the graph between acceleration and displacement from mean position is a :

(A) straight line with positive slope
(B) straight line with negative slope
(C) parabola
(D) hyperbola

40. Mark the correct options.

(A) If the incident rays are converging, we have a real object.
(B) If the final rays are converging, we have a real image.
(C) The image of a virtual object is called a virtual image.
(D) If the image is virtual, the corresponding object is called a virtual object.

41. When the whole Biprism experiment apparatus is immersed in water, the separation between coherent sources –

(A) Decreases
(B) Increases
(C) Remains constant
(D) Nothing can be said

42. Which of the following statement is true?

(A) In insulators the conduction band is completely empty
(B) In conductor the conduction band is completely empty
(C) In semiconductor the conduction band is partially empty at 0 K
(D) In insulators the conduction band is completely filled with electrons

43. Modern communication systems use –

(A) analog circuits
(B) digital circuits
(C) combination of analog and digital circuits
(D) none of the above

44. An electron at a potential of – 10 kV moves to a point where its potential is – 1 kV. Its potential energy has

(A) decreased
(B) increased
(C) not changed
(D) one needs to know the distance between the points to say

45. If voltage across a bulb rated 220 volts – 100watt drops by 2.5%its rated value the percentage of the rated value by which the power would decrease is

(A) 5%
(B) 10 %
(C) 20 %
(D) 2.5 %

46. Two long parallel wires separated by a distance r have equal currents I flowing in each. Either wire experiences a magnetic force F N/m. If the distance r is increased to 3r and current in each wire is reduced to I/3, the force between them will now be -

(A) 3 F N/m
(B) 9 F N/m
(C) (F/9)N/m
(D) (F/B7)N/m

47. The emf and the current in a circuit are – E = 12 sin (100πt) ; I= 4 sin (100πt + π/ 3) then

(A) The current leads the emf by 60º
(B) The current lags the emf by 60º
(C) The emf leads the current by 60º
(D) The phase difference between the current and the emf is zero

48. Three capacitors each of capacity 4μF are to be connected in such a way that the effective capacitance is 6 μF. This can be done by :
(A) Connecting them in parallel
(B) Connecting two in series and one in parallel
(C) Connecting two in parallel and one in series
(D) Connecting all of them is series

49. Which of the following electromagnetic waves has a frequency greater than that of visible light?
(A) Ultraviolet
(B) Radio
(C) Microwaves
(D) Infrared

50. The elevator is moving upwards. What cannot be a possible acceleration of the elevator.
(A) 5 m/s^2 ↑
(B) 10 m/s^2 ↓
(C) 14 m/s^2 ↓
(D) 8 m/s^2 ↓

QUESTIONS 51 TO 75: CHEMISTRY

51. Which one of the following electronic configuration of an atom has the lowest ionisation energy?
(A) $1s^2 2s^2 2p^3$
(B) $1s^2 2s^2 2p63s^1$
(C) $1s^2 2s^2 2p^6$
(D) $1s^2 2s^2 2p^5$

52. Which has maximum volume at S.T.P.?
(A) 1.5×10^{23} molecules of CO_2
(B) 4 g O_2
(C) 1 g H_2
(D) 16 g SO_3

53. Hybridization state of chlorine in ClF3 is :
(A) sp^3
(B) sp^3d^3
(C) sp^3d^2
(D) sp^3d

54. The ratio of rates of diffusion of helium and methane under same conditions of temperature and pressure will be:
(A) 4 : 1
(B) 2 : 1
(C) 1 : 1
(D) 1 : 2

55. An e^- has magnetic quantum number as –3, what is its principal quantum number?
(A) 3
(B) 2
(C) 1
(D) 4

56. The equilibrium constant K_C for the decomposition of PCl_5 is 0.0625 mole l^{-1} at 300ºC. What will be the value of KP –
(A) 2.936 atm
(B) 3.567 atm
(C) 3.856 atm
(D) 0.0625

57. In any chemical reaction, equilibrium is supposed to be establish when :
(A) Mutual opposite reaction undergo
(B) Concentration of reactants and resulting products are equal.
(C) Velocity of mutual reactions becomes equal.
(D) The temperature of mutual opposite reactions becomes equal.

58. A hypothetical reaction, A→2B, proceed through following sequence of steps -

$A \rightarrow C$; $\Delta H = q_1$

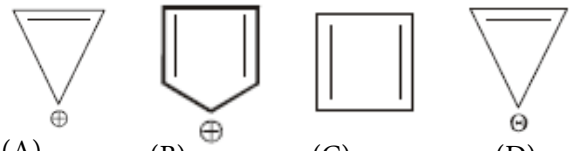
$C \rightarrow D$; $\Delta H = q_2$

$½\ D \rightarrow B$; $\Delta H = q_3$

The heat of reaction is:
(A) $q_1 - q_2 + 2q_3$
(B) $q_1 + q_2 - 2q_3$
(C) $q_1 + q_2 + 2q_3$
(D) $q_1 + 2q_2 - 2q_3$

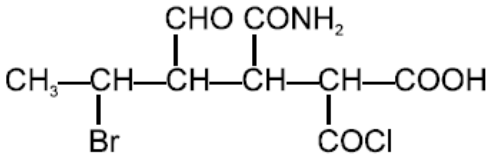
59. A standard hydrogen electrode has zero electrode potential because
(A) hydrogen is easier to oxidise
(B) this electrode potential is assumed to be zero
(C) hydrogen atomhas only one electron
(D) hydrogen is the lighest element

60. Which of the following is an aromatic compound?



(A) (B) (C) (D)

61. The IUPAC name of the given compound.



is -

(A) 2-Bromo-4-carbamoyl-5-chloroformyl-3-formylhexanoic acid

(B) 5-Bromo-3-carbamoyl-2-chloroformyl-4-formylhexanoic acid

(C) 4-Formyl-2-chloroformyl-5-carbamoyl-5-bromohexanoic acid

(D) 2-Chloroformyl-3-carbamoyl-4-formyl-5-bromohexanoic acid

62. On electrolysis of sodium acetate H_2 gas is evolved at cathode, C_2H_6 is at anode. Then reaction is known as -

(A) Frankland
(B) Kolbe
(C) Clemenson
(D) wolf-keishner

63. In the reaction Na(s) + 1/2 H_2 → NaH

(A) 'Na' is oxidized & 'H' is reduced
(B) 'Na' as well as 'H' both undergo reduction
(C) 'Na' as well as 'H' both undergo oxidation
(D) 'Na' is reduced & 'H' is oxidised.

64. Boron compounds behave as Lewis acids because of their

(A) Acidic nature
(B) Covalent nature
(C) Electron deficient character
(D) Ionization property

65. Which of the following will not show aldol condensation?

(A) acetaldehyde
(B) propanaldehyde
(C) benzaldehyde
(D) trideuteroacetaldehyde

66. Which of the following is the strongest acid?

(A) HCOOH (B) CH_3COOH
(C) $(CH_3)_2$ CHCOOH (D) $(CH_3)_3$ C COOH

67. 214.2 gram of sugar syrup contains 34.2 gram of sugar. Calculate (i) molality of the solution and (ii) mole fraction of the sugar in the syrup –

(A) 0.355m, 0.0199
(B) 0.455m, 0.0110
(C) 0.555m, 0.0099
(D) None of these

68. Calamine is concentrated by :

(A) Magnetic Separation
(B) Froath floatation
(C) Cynide process
(D) Gravity separation

69. Tertiary butyl amine is a-

(A) 1°Amine
(B) 2°Amine
(C) 3°Amine
(D) Quaternary salt

70. Which one of the following alcohol has highest boiling point -

(A) Methanol
(B) Ethanol
(C) Propanol
(D) Isopropanol

71. Alkyl halide with alcoholic KOH gives –

(A) Alkane
(B) Acoholic salt
(C) Alkene
(D) Alcohol

72. Which of the following is a disaccharide?

(A) Lactose
(B) Starch
(C) Cellulose
(D) Glucose

73. Fraction of total volume occupied by atoms in a simple cube is -

(A) $\pi/2$
(B) $\sqrt{3}\pi/2$
(C) $\sqrt{2}\pi/6$
(D) $\pi/6$

74. Transition metals and their oxides are used in industrial processes as–

(A) Detergents (B) Insecticides
(C) Catalysts (D) None

75. Which of the following hydrides is not saline hydride?

(A) CaH_2 (B) BaH_2
(C) SrH_2 (D) BeH_2

QUESTIONS 76 TO 100: MATHEMATICS

(only the students of PCM stream have to attempt)

76. Find centre of circle $x^2 + y^2 + 4x - 6y - 3 = 0$
(A) (2, 3)
(B) (–2, 3)
(C) (2, 3)
(D) (–2, 3)

77. In a group of 65 people, 40 like cricket, 10 like both cricket and tennis. How many like tennis only and not cricket? How many like tennis?
(A) 25
(B) 55
(C) 35
(D) None

78. Find the coordinates of the focus of parabola: $y^2 = 10x$
(A) (0, 5/2)
(B) (−5/2, 0)
(C) (0, −5/2)
(D) (5/2, 0)

79. What is period of Sin function :
(A) 2π
(B) π
(C) 2π
(D) π

80. The inequality $n! > 2(n-1)$ is true
(A) for no n €N
(B) for all n € N
(C) for all $n > 1$
(D) for all $n > 2$

81. Find the real numbers x and y if $(x - iy)(3 + 5i)$ is the conjugate of $-6 - 24i$.
(A) X=3, y=3
(B) X=3, y=2
(C) X=2, y=3
(D) X=3, y=3

82. If a, b are roots of the equation $2x^2 - 35x + 2 = 0$, then the value of $(2a - 35)^3 \cdot (2b - 35)^3$ is equal to
(A) 1 (B) 8
(C) 64 (D) None of these

83. The marks scored by Gajraj in two tests were 65 and 70. Find the minimum marks he should score in the third test to have an average of atleast 65 marks.
(A) 75 (B) 70
(C) 65 (D) 60

84. A person wants to leave station B. There are three routes from station B to A and four routes from B to C. In how many ways he can leave the station B.
(A) 7
(B) 11
(C) 1
(D) 12

85. The two consecutive terms in the expansion of $(3+2x)^{74}$ whose coefficients are equal is
(A) 31th and 32st term terms
(B) 29th and 30th terms
(C) 30st and 31nd terms
(D) 28th and 29th terms

86. Let the positive numbers a, b, c, d be in A.P. Then abc, abd, acd, bcd are in
(A) A.P.
(B) G.P.
(C) H.P.
(D) None of these

87. Find the distance between the points (–3, 7, 2) and (2, 4, –1)
(A) √42
(B) √19
(C) √34
(D) √43

88. Find a point on the x-axis, which is equidistant from the points (7, 6) and (3, 4).
(A) (0,7/2)
(B) (0,15/2)
(C) (7/2,0)
(D) (15/2,0)

89. Calculate the derivative of : $3\cot x + 5\operatorname{cosec} x$, at $x = 3\pi/2$
(A) 0
(B) −3
(C) 1
(D) −1

90. A batsman scores runs in 10 innings 38, 70, 48, 34, 42, 55, 63, 46, 54, 44, then the mean deviation from median
(A) 8.6
(B) 6.4
(C) 10.6
(D) 9.6

91. Two balls are drawn at random with replacement from a box containing 10 black and 8 red balls. Find the probability that both balls are red

(A) 1/81
(B) 16/19
(C) 16/81
(D) 16/91

92. The rate of change of the area of a circle with respect to its radius r at r = 6 cm is

(A) 6 π
(B) 21π
(C) 12π
(D) π

93. The area of the region bounded by y = |x – 1| and y = 1 is

(A) 1/2
(B) 1
(C) 2
(D) None of these

94. If x, y, z are positive and none of them is 1, then the value of the following determinant is

$$\begin{vmatrix} 1 & \log_x y & \log_x z \\ \log_y x & 1 & \log_y z \\ \log_z x & \log_z y & 1 \end{vmatrix}$$

is

(A) 1 (B) 0 (C) 2 (D) –2

95. General solution of the differential equation: y logy dx − xdy=0

(A) $y=e^{Cx}$
(B) $y=2e^{Cx}$
(C) $2y=e^{Cx}$
(D) none of these

96.

$$\int \frac{\sin x}{\sin(x-a)}\,dx$$

(A) x sin a + cos a ln | sin (x – a) | + C
(B) x cos a + cos a ln | sin (x – a) | + C
(C) x sin a + cos a ln | cos (x – a) | + C
(D) x cos a + sin a ln | sin (x – a) | + C

97. Evaluate $\int_0^3 |5x - 9|\,dx$

(A) 9/2 (B) 7/2
(C) 15/2 (D) 3/2

98. The length of the major axis of the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ is three times the length of minor axis, it eccentricity is

(A) 1/√3
(B) 1/√2
(C) 2√2/3
(D) 2√2/5

99. The focal length of the hyperbola $x^2 - 3y^2 - 4x - 6y - 11 = 0$, is

(A) 4
(B) 5
(C) 7
(D) 8

100. Which of the following is not a statement?

(A) Every set is a finite set
(B) 8 is less than 6
(C) Where are you going?
(D) The sum of interior angles of a triangle is 180 degrees

QUESTIONS 76 TO 100: BIOLOGY

(only the students of PCB stream have to attempt)

76. Difference between dicot and monocot root can be marked on the basis of
(A) Root hair (B) Epidermis
(C) Pith (D) Protoxylem

77.Which of the following animal is cold blooded and has four chambered beart?
(A) Salamandra (B) Ornithorhynchus
(C) Calotes (D) Crocodile

78.Which of the following group of fungi belong to single class?
(A) Cup fungi, rust fungi and smut fungi
(B) Colletotrichum, Alternaria and Trichoderma
(C) Ustilago, Agaricus, Claviceps
(D) Phytophthora, Albugo, Neurospora

79. If recombinant DNA is inserted within the doding sequence of enzyme galactosidase, which of the following will occur in case of non-recombinants?
(A) Insertional inactivation
(B) Colonies do not produce any colour
(C) Chromogenic substrate gives blue colour
(D) Inactivation of enzyme galactosidase

80. Today, transgenic models exist for many human diseases which includes
A. Cancer
B. Cystic fibrosis
C. Rheumatoid arthritis
D. Alzheimer's disease
(A) A and B only
(B) A, B and C only
(C) A and C only
(D) All of these

81. Emphysema is characterised by destruction of alveolar area leading to reduction in respiratory surface and one reason for this is
(A) Cigarette smoking
(B) Heavy exercise
(C) Wine consumption
(D) Drug addiction

82. Select the incorrect match w.r.t. function
(A) Tonoplast – Transport of ions
(B) Mitochondria – Generation of adenosine triphosphate
(C) Golgi apparatus–Storage of starch and glycoproteins
(D) Plasma membrane – Secretion

83. During cytokinesis in plant cells
(A) Organelles get distributed between the two daughter cells
(B) Wall formation starts near mother cell wall
(C) Appearance of furrow in the plasma membrane
(D) Both (B) & (C)

84. Which of the following is an age related disorder characterized by decreased bone mass and increased chances of fractures. Decreased levels of estrogen is a common cause for this disorder
(A) Myasthenia gravis
(B) Muscular dystrophy
(C) Osteoporosis
(D) Osteoarthrits

85. Epiglottis is a cartilaginous flap which prevents the entry of food into
(A) Internal nostrils/nares
(B) Gullet
(C) Glottis
(D) Gastro-oesophageal sphincter

86. Which one is not a characteristic of artificial ecosystem?
(A) Self regulatory mechanism
(B) Have little diversity
(C) Simple food chain
(D) High productivity

87. When a quick immune response is required due to infection of a deadly microbe, the patient is injected with
(A) Protein of pathogen
(B) Inactivated or weakened pathogen
(C) Vaccine
(D) Performed antibodies

88. Tasmanian wolf is marsupial while wolf is a placental mammal. This shows
(A) Convergent evolution
(B) Divergent evolution
(C) Speciation
(D) Inheritance of acquired characters

89. Electrical excitation in a muscle fibre directly causes
(A) Movement of tropomyosin
(B) Attachement of the cross bridges to actin
(C) Release of Ca^{+2} from sarcoplasmic reticulum
(D) Splitting of ATP

90. Enzyme which is not involved in the process of central dogma
(A) DNA polymerage
(B) RNA polymerase
(C) Peptidyltransferase
(D) Reverse transcriptase

91. Epipetalous condition is a characteristic of
(A) China rose family
(B) Brinjal family
(C) Lily family
(D) Mustard family

92. Non-flagellated male gametes are present in all the three of which one of the following sets?
(A) Pinus, Cycas, Ficus
(B) Pinus, Ficus, Mango
(C) Dryopteris, Adiantum, Selaginella
(D) Funaria, Ulothrix, Spirogyra

93. Commonest free ion in cell
(A) Potassium
(B) Calcium
(C) Magnesium
(D) Iron

94. Male heterogamety is found in
(A) Birds
(B) Drosophila
(C) Reptiles
(D) More than one option is correct

95. Which of the following statements are correct w.r.t. ideal contraceptives?
A. It should be user friendly.
B. It should be easily available.
C. It should be effective and reversible with least side effects
D. It should interfere with the sexual act of the user
(A) A and B only
(B) A and C only
(C) A, B and C only
(D) All of these

96. Endosperm is completely consumed by the developing embryo in
(A) Pea, beans and castor
(B) Beans, maize and rice
(C) Coconut, castor and wheat
(D) Groundnut, pea and beans

97. Medicinal use of root of Rauwolfila serpentina
(A) Against high blood pressure
(B) Schizophrenia
(C) Painful bowels
(D) All of these

98. The body symmetry and coelom are similar in
(A) Annelids and Arthropods
(B) Annelids and Platyhelminthes
(C) Molluscs and Echinoderms
(D) Annelids and Poriferans

99. In cockroach, wings are absent in –
(A) Prothorax
(B) Mesothorax
(C) Metathorax
(D) None of these

100. To get quick energy one should use-
(A) Proteins
(B) Fats
(C) Vitamins
(D) Carbohydrate