# LEAD TALENT SEARCH EXAM - LTSE 2017 <br> A Project by LEAD Trust, Bangalore. <br> ENTRANCE TEST FOR $10^{\text {TH }}$ STANDARD STUDENTS FOR 2 YEAR RESIDENTIAL PU COACHING AT PARTNER INSTITUTIONS FOR COMPETITIVE ENGINEERING / MEDICAL ENTRANCE TESTS 

Selected students qualify for freeships/scholarships for admission into Partner Colleges in Karnataka and Kerala. The students will be provided extensive coaching for IIT-JEE 2019 / Karnataka CET 2019 / Kerala KEAM 2019 / NEET-UG (formerly AIPMT) entrance exams.

NAME OF THE STUDENT $\qquad$
NAME OF THE SCHOOL $\qquad$
REGISTRATION NUMBER ( 6 -digit code number in OMR)
TELEPHONE NUMBER (as mentioned in the application form): $\qquad$
EMAIL ID (as mentioned in the application form) : $\qquad$

## INSTRUCTIONS TO THE CANDIDATE:

1. This question paper consists of $\mathbf{5}$ sections out of which only $\mathbf{4}$ need to be attempted. Sections I, II and III are compulsory. From Sections IV and V, Students opting for Engineering need to attempt Section IV (Maths) and Students opting for Medical need to attempt Section V (Biology).

- Section I Physics - 20 questions
- Section II Chemistry - 20 questions
- Section III Logical Reasoning - 20 questions
- Section IV Mathematics - 20 questions
- Section V Biology - 20 questions

2. Each question contains four alternatives out of which only ONE is correct.
3. Indicate your answers ONLY on the OMR sheet. If you are not attempting Section IV, then leave questions 61 to 80 as blank in OMR sheet. If you are not attempting Section $V$, then leave questions 81 to 100 as blank in OMR sheet.
4. NEGATIVE MARKING: Each correct answer will be awarded one mark, $1 / 4$ marks will be deducted for each incorrect answer. More than one answer marked against a question will be deemed as an incorrect response and will be negatively marked.
5. Use of Calculators, Smartphones and Electronic devices is NOT allowed.


## Section I: Physics

1. Statement 1: It is possible for an object in motion to have zero distance covered and yet have non-zero displacement.

Statement 2: It is possible for an object in motion to have zero velocity at an instant but non-zero acceleration at the same instant.

Out of the above two statements,
(A) Both the statements are true.
(B) Both the statements are false.
(C) Only statement 1 is true.
(D) Only statement 2 is true.
2. A ball is released from the top of a tower of height $h$ meters. It takes $T$ seconds to reach the ground. What is the position of the ball in $\mathrm{T} / 3$ seconds?
(A) (h/9) meter above the ground
(B) $(\mathrm{h} / 3)$ meter above the ground
(C) $(8 \mathrm{~h} / 9)$ meter above the ground
(D) $(17 \mathrm{~h} / 18)$ meter above the ground
3. A manufacturer marks the thermometer wrongly. At $0^{\circ} \mathrm{C}$ it reads $-10^{\circ} \mathrm{C}$, at $100^{\circ} \mathrm{C}$ it reads $85^{\circ} \mathrm{C}$. Then the reading at $50^{\circ} \mathrm{C}$ will be
(A) $40{ }^{\circ} \mathrm{C}$
(B) $32.5^{\circ} \mathrm{C}$
(C) $37.5^{\circ} \mathrm{C}$
(D) 42.50 C
4. If mass of each of the two objects and the distance between them is doubled, the force of attraction between them
(A) decreases by a factor of 2
(B) increases by a factor 4
(C) increases by a factor of 2
(D) remains unchanged
5. In an experiment to determine the boiling point of water, the stop watch used to note down the temperature of water at different intervals of time has 20 divisions between 0 to 10 second marks. The least count of the stop watch is
(A) 0.1 second
(B) 0.5 second
(C) 1 second
(D) 2 seconds
6. Three small metal cubes have a mass of 20 g each. One cube is of aluminum (density $=2.7 \mathrm{~g} / \mathrm{cm}^{3}$ ), one is of brass (density $=8.5 \mathrm{~g} / \mathrm{cm}^{3}$ ) and one is of lead (density $=11.4 \mathrm{~g} / \mathrm{cm}^{3}$ ). Which cube when dropped into a beaker of water, will result in the greatest rise in the water level?
(A) All will cause the same rise in water level
(B) Aluminum
(C) Brass
(D) Lead
7. In which of the following arrangement of resistors does the voltmeter $M$, which has a resistance of $2 \Omega$, gives the largest reading when the same potential difference is applied between points P and Q ?
(A)

(B)

(C)

(D)

8. A 4 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 24 cm . The distance of the object from the lens is 16 cm . The size and position of the image formed will be
(A) 12 cm high at 48 cm from the lens
(B) 24 cm high at 24 cm from the lens
(C) 48 cm high at 12 cm from the lens
(D) 24 cm high at 36 cm from the lens
9. How many minimum forces are needed to keep a body at equilibrium?
(A) One
(B) Two
(C)Three
(D) Infinite
10. In the shown figure, if $\mathrm{F}=20 \mathrm{~N}, \mathrm{~m}_{1}=\mathrm{m}_{2}=3 \mathrm{~kg}$ and the acceleration is $0.5 \mathrm{~m} / \mathrm{s}^{2}$.


If the friction forces on the two blocks are equal, what is the magnitude of frictional force on either block?
(A) 10 N
(B) 17 N
(C) 8.5 N
(D) 0
11. A piece of resistance wire is cut into $n$ equal pieces and then each of the pieces joined parallel to each other. The equivalent resistance after joining will be
(A) same as the original wire
(B) $n$ times the original wire
(C) $1 / n$ times the original wire
(D) $1 / n^{2}$ times the original wire
12. A closed compartment containing a gas is moving with some acceleration in horizontal direction. Neglect effect of gravity. Then the pressure in the compartment is
(A) same everywhere
(B) lower in the front side
(C) lower in the rear side
(D) higher in the upper side
13. To determine the melting point of ice, a student immersed the bulb of the thermometer in the crushed ice in a beaker. He then heated the beaker on a low flame and observed that during melting of ice, the temperature
(A) increased
(B) remained constant
(C) decreased
(D) first decreased then continuously increased
14. When a ball is thrown vertically upwards, the total mechanical energy is
(A) maximum at the highest point.
(B) maximum at the lowest point.
(C) maximum at the middle point.
(D) constant throughout the journey.
15. The velocity-time graph of an object of mass $m=50 \mathrm{~g}$ is shown in figure. Observe the graph carefully and calculate the force acting on the object in time intervals (i) $0-3$ s and (ii) $6-10 \mathrm{~s}$
(A) (i) 40 N and (ii) 30 N
(B) (i) 2 N and (ii) 1.5 N
(C) (i) 200 N and (ii) - 1500 N
(D) (i) 2 N and (ii) -1.5 N

16. A car was cruising at $100 \mathrm{~km} /$ hour on a highway when the driver suddenly noticed a dog, which came in front of the car. The driver suddenly applied the brakes and the car stopped in 3 seconds. Driver's bag, which was kept on the roof of the car and not tied to anything could have
(A) slipped in forward direction
(B) slipped in backward direction
(C) moved in upward direction
(D) started moving in a circle
17. A cylindrical bar magnet is kept along the axis of a circular coil and near it as shown in figure. The magnet is rotated in case (a) about its own axis and in case (b) about axis perpendicular to the length of magnet. In which case will there be an induced electromotive force at the terminals of the coil ?
(A) case (a)
(B) case (b)
(C) both case (a) and case (b)
(D) Neither case (a) nor case (b)

case (a)

case (b)
18. Where should an object be placed so that a real and inverted image of the same size is obtained by a convex lens?
(A) At the focus of the lens
(B) At twice the focal length
(C) At infinity
(D) Between optical centre and focus of a lens
19. A car ' $A$ ' of mass 1500 kg , travelling at $25 \mathrm{~m} / \mathrm{s}$ collides with another car ' $B$ ' of mass 1000 kg travelling at $15 \mathrm{~m} / \mathrm{s}$ in the same direction. After collision, the velocity of car A becomes $20 \mathrm{~m} / \mathrm{s}$. The velocity of car B after the collision will be
(A) $22.5 \mathrm{~m} / \mathrm{s}$
(B) $25 \mathrm{~m} / \mathrm{s}$
(C) $20 \mathrm{~m} / \mathrm{s}$
(D) $15 \mathrm{~m} / \mathrm{s}$
20. Two balls have different masses but same kinetic energy. Which has more momentum?
(A) Heavier ball
(B) Lighter ball
(C) Both of them will have equal momentum
(D) Data is insufficient

## Section II: Chemistry

21. Which of the following elements have one electron in the outermost shell:
(A) Beryllium
(B) Potassium
(C) Calcium
(D) Fluorine
22. The decreasing order of the energy level among the following subshells is
(A) $4 s>3 d>4 p>5 s$
(B) $5 s>4 p>4 s>3 d$
(C) $3 d>4 s>4 p>5 s$
(D) $5 s>4 p>3 d>4 s$
23. Ammonium Chloride sublimates on heating. It means that on heating,
(A) it first melts at its melting point and then changes into a gas at its boiling point.
(B) it directly changes from solid to vapors without melting.
(C) it loses its water of crystallization.
(D) it condenses from the gaseous state to the liquid state.
24. The nature of the bonding which is formed when Potassium reacts with an element $X$ of electronic configuration $2,8,7$ is
(A) Ionic bonding
(B) Covalent bonding
(C) M etallic bonding
(D) Hydrogen bonding
25. A sample of methane has the same mass as $2.0 \times 10^{15}$ molecules of ethane. The number of molecules of methane contained in the sample will be
(A) $3.75 \times 10^{15}$
(B) $6.022 \times 10^{23}$
(C) $6.022 \times 10^{24}$
(D) $3.75 \times 10^{21}$
26. Ravi prepared a solution of sodium chloride by mixing 5.85 g of salt in 2 litre of solution. The number of moles of sodium chloride dissolved are
(A) 1 mol
(B) 0.1 mol
(C) 0.2 mol
(D) 0.5 mol
27. Which one of the following does not increase while moving down the group of the periodic table?
(A) Atomic radius
(B) M etallic character
(C) Valence
(D) Number of shells in an element
28. The gas which, when passed through lime water, turns it milky is
(A) $\mathrm{O}_{2}$
(B) $\mathrm{N}_{2}$
(C) $\mathrm{CO}_{2}$
(D) $\mathrm{H}_{2}$
29. The total number of covalent bonds in propane and propene are respectively.
(A) 9 and 10
(B) 10 and 9
(C) 10 and 11
(D) 8 and 9
30. Isomers of the first $\qquad$ members of alkane series are not possible.
(A) 2
(B) 3
(C) 1
(D) 4
31. In the preparation of soap, sodium chloride causes
(A) complete saponification.
(B) complete hydrolysis.
(C) complete neutralization.
(D) complete precipitation.
32. The hydrogen bond is formed between a hydrogen atom and an atom of
(A) C
(B) F
(C) S
(D) P
33. Which of the following statements is WRONG?
(A) KCl is soluble in water.
(B) HCl conducts electricity in its aqueous solution.
(C) Acetic acid is soluble in water.
(D) The bond formed between Aluminum and Fluorine is Covalent.
34. When the solution of a base is diluted, what will be the change in pH of the solution?
(A) increases
(B) decreases
(C) does not change
(D) unpredictable
35. Statement-1: It is difficult to cook food at hill.

Statement-2: The boiling point of water increases at hill.
(A) Statement 1 and 2 are correct and statement 2 is the correct explanation of statement 1.
(B) Statement 1 and 2 are incorrect.
(C) Statement 1 is correct but statement 2 is incorrect.
(D) Statement 2 is correct but statement 1 is incorrect.
36. Which of the following salts may be used to prepare hard water?
(A) $\mathrm{CaSO}_{4}, \mathrm{Na}_{2} \mathrm{SO}_{4}$ and $\mathrm{K}_{2} \mathrm{SO}_{4}$
(B) $\mathrm{CaSO}_{4}, \mathrm{CaCl}_{2}$ and $\mathrm{MgCl}_{2}$
(C) $\mathrm{Na}_{2} \mathrm{SO}_{4}, \mathrm{~K}_{2} \mathrm{SO}_{4}$ and $\mathrm{NaHCO}_{3}$
(D) $\mathrm{CaCl}_{2}, \mathrm{NaHCO}_{3}$ and $\mathrm{MgCl}_{2}$
37. Cotton is a polymer of
(A) Fructose
(B) Glucose
(C) Sucrose
(D) Lactose
38. The elements with atomic numbers 3,11 and 19 are all
(A) halogens
(B) alkalines earth metals
(C) noble gases
(D) alkali metals
39. Which of the following ions are isoelectronic? (Atomic numbers of $\mathrm{Na}=11, \mathrm{Mg}=12, \mathrm{~K}=19$ and $\mathrm{Ca}=20$ )
(A) $\mathrm{Na}^{+}, \mathrm{Mg}^{2+}$
(B) $\mathrm{M} \mathrm{g}^{2+}, \mathrm{Ca}^{2+}$
(C) $\mathrm{Ca}^{2+}, \mathrm{Na}^{+}$
(D) $\mathrm{Na}^{+}, \mathrm{K}^{+}$
40. When we react lead nitrate and sodium chloride to get lead chloride and sodium nitrate so as to prove the conservation of mass, which of the following statements is correct
(A) Mass of lead nitrate $=M$ ass of Sodium Chloride
(B) Mass of lead nitrate $+M$ ass of Sodium Chloride $=M$ ass of Lead Chloride + Mass of Sodium Nitrate
(C) M ass of lead Chloride + M ass of Sodium Chloride $=$ M ass of Lead Nitrate $+M$ ass of Sodium Nitrate
(D) Mass of Sodium Chloride + M ass of Sodium Nitrate $=M$ ass of Lead Chloride $+M$ ass of Lead Nitrate

## Section III: Logical Reasoning

41. A cube painted red on two adjacent faces, and pink on the faces opposite to the orange faces, and violet on the remaining faces, is cut into sixty-four smaller cubes of equal sizes. How many cubes have less than three but atleast one face painted?
(A) 8
(B) 24
(C) 28
(D) 48
42. $P \times Q$ means $P$ is the brother of $Q . P+Q$ means $P$ is the father of $Q . P / Q$ means $P$ is the sister of $Q$. Which of the following means ' $A$ is the uncle of $M$ '?
(A) $A+D / M$
(B) $A \times D+M$
(C) $A+D \times M$
(D) $A / D+M$
43. A man said to a woman, "Your brother's only sister is my mother". What is the relation of the woman with the maternal grand mother of that man?
(A) M other
(B) Sister
(C) Niece
(D) None of the above
44. Six students $A, B, C, D, E$ and $F$ are sitting in the field. $A$ and $B$ are from Calicut while the rest are from Bangalore. D and F are tall while others are short. A, C and D are girls while others are boys. Who is the tall girl from Bangalore?
(A) C
(B) D
(C) E
(D) F
45. What will come in place of the question mark "?"

B2S, F6P, J14M , ?
(A) N301
(B) M 241
(C) N30
(D) P24J
46. Salmah remembers that she met her sister Haleema on Saturday after 13th of any month. If the first day of the month was Tuesday then possibly on what date did she meet her sister?
(A) 18
(B) 20
(C) 19
(D) 21
47. A factory was cutting rolls of cloth into 1 metre lengths, from a 200 metre roll. How long would it take for the machine to cut the roll if each cut took 4 seconds?
(A) 13.34 mins
(B) 13.27 mins
(C) 14 mins
(D) 13.67 mins
48. Statement: Yaks are heavier than cows but lighter than horses. Birds are heavier than donkeys but lighter than cows.
Conclusions:
I) Donkeys are lighter than cows.
II) Cows are lighter than horses.
III) Birds are lighter than yaks.
IV) Donkeys are the lightest.

Assume that the above Statement is true. Based on it, which conclusion follows?
(A) Conclusions I, II and III are true
(B) Conclusions II, III and IV are true
(C) Only I and IV are true
(D) All the conclusions are true
49. Wasim started to move in the direction of south. After 15 m , he turned to his left and moved 15 m . Again he turned to his left and moved 15 m . Now how far is he from his starting point and in what direction?
(A) 15 m , north
(B) 15 m , south
(C) 30 m , east
(D) 15 m , east
50. Ram is 11th in a queue which has 45 people. The number of men in the queue are double than the number of ladies. If 5 men are in front of Ram, how many ladies are behind him?
(A) 10
(B) 9
(C) 8
(D) 11
51. How many circles are there in the given picture?
(A) 12
(B) 24
(C) 11
(D) 13

52. In a code language, if BOXER is written as AQW GQ, then VISIT will be written as
(A) UKRKU
(B) UKRKS
(C) WKRKU
(D) WKRKS
53. Complete the series: $38,27,18,11$, $\qquad$
(A) 6
(B) 4
(C) 5
(D) 3
54. Outside of an assembly house, Masood was told by a person that each meeting takes place after 3 hours 15 minutes. Last meeting has been over just before 45 minutes and next meeting will take place at 2:00 pm . At what time did M asood receive this information?
(A) 10:20 AM
(B) $11: 45 \mathrm{AM}$
(C) $12: 30 \mathrm{PM}$
(D) 11:30 AM
55. 3 boxes are in a room. You know that one contains only apples, one contains only oranges, and one contains both apples and oranges. But you don't know the contents of the specific boxes. The boxes are labeled, "APPLES", "ORANGES" and "APPLESAND ORANGES". Each box has the wrong label on it. You must identify the contents of each box by picking one piece of fruit from only one box. Which box will you pick first to label the boxes correctly?
(A) APPLES
(B) ORANGES
(C) APPLES AND ORANGES
(D) None of the above
56. Four people witnessed a theft. Each gave a different description of the thief. Which description is probably right?
(A) He was average height, thin, and middle-aged.
(B) He was tall, thin, and middle-aged.
(C) He was tall, thin, and young.
(D) He was tall, of average weight, and middle-aged.
57. There are 40 pens in a box. Each pen is either a ballpoint pen or a fountain pen, and each pen is either red or blue. 15 pens are red, and 20 pens are ballpoint pens. If there are 9 blue fountain pens, how many red ballpoint pens are there?
(A) 4
(B) 8
(C) 11
(D) Cannot tell
58. Engine is to Car, as $\qquad$ is to Bicycle
(A) Tyre
(B) Road
(C) Paddle
(D) Chain
59. Three of the following four are alike in a certain way and so form a group. Which is the one which does not belong to the group?
(A) Calculator
(B) Computer
(C) Piano
(D) Typist
60. Find the missing combination of operators in the below equation
$1 \ldots 2 \ldots 3 \ldots 4=6$
(A),,++-
(B),,+-+
(C),,--+
(D),,-++

## Section IV: Mathematics

61. The average of 20 numbers is zero. How many of them, at most, may be greater than zero?
(A) 0
(B) 1
(C) 10
(D) 19
62. A sphere of diameter 18 cm is dropped into a cylindrical vessel of diameter 36 cm , partly filled with water. If the sphere is completely submerged, then the water level rises by
(A) 3 cm
(B) 4 cm
(C) 5 cm
(D) 6 cm
63. Area of the major segment APB (shaded portion in the figure) of a circle of radius $r$ and angle $A O B=90$ degrees is
(A) $(0.75 \pi+0.5) r^{2}$
(B) $(0.75 \pi-0.5) r^{2}$
(C) $(0.25 \pi+0.5) r^{2}$
(D) $(0.25 \pi-0.5) r^{2}$

64. $f(x)$ is a linear function. If $f(1)=-1$ and $f(2)=14$. Find the value of $f(15)$.
(A) 214
(B) 201
(C) 213
(D) 209
65. If $x+\frac{1}{x}+2=0$, then the value of $x^{33}+x^{32}+x^{13}+x^{12}+x+1$ is
(A) 2
(B) 0
(C) 3
(D) 4
66. JKLM is a square with sides of lengths 6 units. Points $A$ and $B$ are the midpoints of the sides KL and LM respectively. If a point is selected at random from the interior of the square. What is the probability that the point is chosen from the interior of triangle JAB?
(A) $1 / 8$
(B) $1 / 36$
(C) $3 / 16$
(D) $3 / 8$
67. $\sin ^{6} \theta+\cos ^{6} \theta+3 \sin ^{2} \theta \cos ^{2} \theta$ is equal to
(A) 0
(B) 1
(C) -1
(D) 2
68. Two different numbers are selected from the set $\{-3,-1,0,2,4\}$ and then multiplied together. What is the probability that the product of the two numbers chosen is 0 ?
(E) $1 / 10$
(F) $1 / 5$
(G) $3 / 10$
(H) $2 / 5$
69. If the point $(3,1 / 3)$ lies on the graph of the equation $3 y=a x-2$, then the value of $a$ is
(A) -1
(B) 1
(C) 3
(D) -3
70. In the given figure, a circle touches all the four sides of a quadrilateral $A B C D$ with sides $A B=6 \mathrm{~cm}, B C=$ 7 cm , and $C D=4 \mathrm{~cm}$. The length of AD will be
(A) 2 cm
(B) 3 cm
(C) 4 cm
(D) 5 cm

71. If $n^{2}+x=26500$, where $n$ and $x$ are natural numbers, what is the smallest possible value of $x$ which satisfies the given equation?
(A) 500
(B) 265
(C) 81
(D) 256
72. One of the factors of the expression $(2 a+5 b)^{3}+(2 a-5 b)^{3}$ would be
(A) $4 a$
(B) 10 b
(C) $2 a+5 b$
(D) $2 \mathrm{a}-5 \mathrm{~b}$
73. If the polynomial $f(x)=x^{4}-6 x^{3}+16 x^{2}-25 x+10$ is divided by another polynomial $x^{2}-2 x+k$, the remainder comes out to be $x+a$. Find $k+a$.
(A) 5
(B) 0
(C) 10
(D) -10
74. There are 3 villages $A, B$ and $C$ such that the distance from $A$ to $B$ is 7 km , from $B$ to $C$ is 5 km and from $C$ to $A$ is 8 km . The Gram Pradhan wants to dig a well in such a way that the distance from each village to the well is equal. The distance of the well from any village will be
(A) 4 km
(B) 5 v 3 km
(C) $7 / \mathrm{v} 3 \mathrm{~km}$
(D) 9 km
75. In a group of persons, 30 like tea, 25 like coffee and 16 like both tea and coffee. How many like either tea or coffee?
(A) 55
(B) 25
(C) 30
(D) 39
76. A box contains 4 red, 3 white and 2 blue balls. Three balls are drawn at random. The number of ways of selecting the balls of different colours are
(A) 24
(B) 48
(C) 9
(D) 432
77. The sum of all positive integers, from 5 to 1555 inclusive, that are divisible by 5 is
(A) 555555
(B) 151515
(C) 242580
(D) 515151
78. If two vertices of an equilateral triangle are $(3,0)$ and $(6,0)$, then the third vertex will be
(A) $(4.5,3 \mathrm{~V} 3)$
(B) $(1.5,4.5)$
(C) $(3,6)$
(D) $(9 / 2,(\sqrt{2} 2) / 2)$
79. How many 4-digit numbers, which are less than 5000 , can be formed using the digits $1,2,3,4,5,6$ without repetition of the digits?
(A) 240
(B) 420
(C) 500
(D) 360
80. If $x=\frac{4 a b}{(a+b)}$, then the value of $\frac{x+2 a}{x-2 a}+\frac{x+2 b}{x-2 b}$ is
(A) 1
(B) -2
(C) 4
(D) 2

## Section V: Biology

81. Concentration of DDT is highest in
A) Primary consumer
B) Producers
C) Top consumer
D) Decomposers
82. Which of the following is false with regard to DNA finger printing?
A) It can be done for any biological specimen.
B) Gel electrophoresis technique is used.
C) It is based on coding sequences.
D) It is useful in forensic science.
83. Species $X$ arechlorophyllous plants which are autotrophic in their mode of nutrition and may be green, yellow, orange and red colour etc. Species X belongs to division Y which are Nonvascular plants and whose plant body is not differentiated into true roots, stems and leaves Unicellular and nonjacketed sex organs. In the above passage division Y is
A) Bryophyta
B) Thallophyta
C) Pteridophyta
D) Gymnosperms
84. During excretion the filtrate is circulating in the distal convoluted tubule some important salts are actively added to it. This process is known as
A) Active reabsorption
B) Selective reabsorption
C) Tubular secretion
D) Glomerular filtration
85. The cells whose number varies from 4.5 to 5.5 million cells / cubic mm of blood is
A) Platelets
B) Red blood cells
C) White blood cells
D) Granulocytes
86. Flight or fight reactions cause activation of
A) The parathyroid glands, leading to increased metabolic rate.
B) The kidney, leading to suppression of renin angiotensin-aldosterone pathway.
C) The adrenal medulla leading to increased secretion of epinephrine \& norepinephrine.
D) The pancreas leading to a reduction in the blood sugar levels.
87. In plant if Tall ( $T$ ) is dominant over dwarf ( t ) trait \& red flower ( R ) colour is in completely dominant over white colour of flower(r), the phenotype ratio of the cross conducted between heterozygous tall plant with pink colour flowers \& dwarf plant with white flowers is
A) $1: 1$
B) $1: 1: 1: 1$
C) $1: 2: 1$
D) $3: 1$
88. Select an option which includes STDs caused by viruses.
A) AIDS, HEp-B, Genital herpes
B) AIDS, HEp-B, Gonorrhea
C) AIDS, HEp-B, Chlamydiasis
D) AIDS, HEp-B, Trichomoniasis
89. If the maggot larvae of a butterfly has 24 chromosomses then how many chromosomes must be there in the sperm and egg cells
A) 6
B) 18
C) 12
D) 24
90. A person passes much urine and drinks much water but his blood glucose level is normal. This condition may be the result of a hormone
A) Glucagon
B) Insulin
C) Inhibin
D) Vasopressin
91. Antibiotics acts on harmful bacteria but does not react on
A) Plasmodium Vivax
B) Aedis aegypti
C) Rhino Virus
D) Salmonella typhi
92. Which is not a deficiency disease?
A) Anaemia
B) Hepatitis
C) Scurvy
D) Goitre
93. Which of the following processes acts to remove carbon dioxide from the atmosphere?
A) Respiration
B) Burning of fossil fuels
C) Lightning
D) Photosynthesis
94. Sickle cell Anemia, Haemophilia, Tay Sachs diseases are examples of
A) Diseases as a result of complications due to HIV.
B) Diseases where no new cases have been reported since 2000 .
C) Diseases as a result of increased use of genetically modified food.
D) Dysfunctional gene behavior caused due to mutation or chromosome abnormality.
95. The fluid filled cavity between the Alimentary canal and the body wall is
A) Coelom
B) Gastrocoel
C) Pseudocoelom
D) Spongocoel
96. The reproductive cells Ova \& sperm fuse together during sexual reproduction to form
A) Zygote
B) Embryo
C) Blastocyst
D) Egg
97. Spinal nerves in humans are
A) 21 pairs
B) 12 pairs
C) 31 pairs
D) 29 pairs
98. The membranous organelle found in both plants and animals among the following
A) Ribosomes
B) Centriole
C) Mitochondria
D) Plastid
99. The vitamin which promotes healthy skin, eyes, skeletal growth and normal tooth structure is
A) Vit B12
B) Vit B1
C) Vit A
D) Vit C
100. A group of chordates in which notochord is restricted to the anterior half of the body is
A) Vertebrata
B) Cephalochordata
C) Urochordata
D) Hemichordata
