# 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) $\qquad$
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.

| PROCEDURE OF FILLING UP | THE ANSWERS IN OMR SHEET |
| :---: | :---: |
|  |  |

## Section I: Physics

1. A point object traverses half the distance with velocity $\mathrm{V}_{0}$. The remaining part of the distance was covered with velocity $\mathrm{V}_{1}$ for the half the time and with velocity $\mathrm{V}_{2}$ for the rest half. The average velocity of the object for the whole journey is
(A) $\frac{2 v_{1}\left(v_{0}+v_{2}\right)}{\left(v_{0}+2 v_{1}+2 v_{2}\right)}$
(B) $\frac{2 v_{0}\left(v_{0}+v_{1}\right)}{\left(v_{0}+v_{1}+v_{2}\right)}$
(C) $\frac{2 v_{0}\left(v_{1}+v_{2}\right)}{\left(2 v_{0}+v_{1}+v_{2}\right)}$
(D) $\frac{2 v_{2}\left(v_{0}+v_{1}\right)}{\left(v_{0}+2 v_{1}+v_{2}\right)}$
2. During an investigation a student filled two cups with the same amount of water and placed them in a 20 ${ }^{\circ} \mathrm{C}$ room for 30 minutes. Cup 1 was filled with water at $5{ }^{\circ} \mathrm{C}$, Cup 2 was filled with water at $35{ }^{\circ} \mathrm{C}$. The diagram below shows the temperature of the cups at the beginning of the investigation.
$20^{\circ} \mathrm{C}$ room temperature


Which of the following graph shows how the temperatures of the two cups of water most likely changed over 30 minutes?

(A)
(B)

(C)

(D)

3. Which of the following best describes the forces being used by the dog?
(A) The dog is pulling on the ground and pulling on the rope.
(B) The dog is pulling on the ground and pushing on the rope.
(C) The dog is pushing off the ground and pulling on the rope.

(D) The dog is pushing off the ground and pushing on the rope.
4. Sound waves travel at $350 \mathrm{~m} / \mathrm{s}$ through warm air and at $3500 \mathrm{~m} / \mathrm{s}$ through brass. The wavelength of a 700 Hz sound wave as it enters brass from warm air
(A) decreases by a factor 10
(B) increases by a factor 20
(C) increases by a factor 10
(D) decreases by a factor 20
5. There are two identical conducting bodies $A$ and $B$. Body-A is given a positive charge $Q$ as shown in the figure. Now A touches B for a moment and gets separated, then choose the INCORRECT statement.
(A) B gets positively charged
(B) B gets negatively charged
(C) $A$ and $B$ will have equal amounts of charge
(D) A and B both have positive charges.


Insulated stand
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. Hottest planet of our solar system
(A) is the only planet which supports life
(B) is the planet closest to Sun
(C) contains a large amount of carbon dioxide
(D) is also known as red planet
9. In figure, rays 1,2 and 3 are the incident rays and $1^{\prime}, 2^{\prime}$ and $3^{\prime}$ are the reflected rays from the region $A B C D$ after reflection from a plane mirror kept inside $A B C D$.


Which option shows the correct location of the plane mirror?
(A)


(C)

A B
(D)

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. When ice is converted into water, the physical quantity which changes is
(A) Volume
(B) Latent heat
(C) M ass
(D) None
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. In which figure, the magnetic field lines due to a bar magnet are correctly shown:
(A)

(B)

(C)

(D)

14. Which motion is exhibited by the wheels of car as it comes down the ramp?
(A) Rotational only
(B) Translational only
(C) Curvilinear only
(D) Rotational and translational

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) $0-3 \mathrm{~s}$ 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. When a composite light wave passes through a medium other than vacuum,
(A) the speed of higher frequency is greater than the speed of lower frequency
(B) the speeds of all component frequencies in the medium are equal
(C) the speed of higher frequency is less than the speed of lower frequency
(D) the speeds of all frequencies are greater than those in vacuum.
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 e.m.f. 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. $A$ boy travels from point $A$ to point $E$ via path $A B C D E$. If $E$ is centre of square $A B D F$ then the distance and displacement of the boy in meters respectively is ( $\pi=22 / 7$ )
(A) $36+7 \sqrt{ } 2,7$
(B) $36+7 \sqrt{ } 2,7 v 2$
(C) $7 \sqrt{ } 2,36+7 \sqrt{ } 2$
(D) 7,43

19. Which of the following relationships regarding wavelength of light is correct?
(A) $\lambda_{\text {visible }}>\lambda_{x \text {-ray }}>\lambda_{\text {infrared }}$
(B) $\lambda_{x \text {-ray }}>\lambda_{\text {infrared }}>\lambda_{\text {visible }}$
(C) $\lambda_{\text {infrared }}>\lambda_{\text {visible }}>\lambda_{x}$-ray
(D) $\lambda_{x \text {-ray }}>\lambda_{\text {visible }}>\lambda_{\text {infrared }}$
20. In an experiment of photoelectric effect, the number of photoelectrons has to be increased without changing their frequency. The suitable step to be taken about the incident radiation for this is
(A) increasing intensity without changing frequency
(B) increase both frequency and intensity
(C) increase frequency without increasing intensity
(D) increasing only frequency

## Section II: Chemistry

21. The atomic number of an atom is 21 . The total number of electrons in $s, p$ and $d$ orbitals respectively are (A) $4,16,1$
(B) $8,12,1$
(C) $8,13,0$
(D) $4,17,0$
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. Which of the following statements is INCORRECT?
(A) When steam is passed over red hot coke, mixture of $\mathrm{CO}_{2}$ and $\mathrm{H}_{2}$ is formed.
(B) The soft drinks contain carbonic acid.
(C) When steam is passed over red hot iron, $\mathrm{H}_{2}$ is liberated.
(D) Potassium metal reacts with water liberating $\mathrm{H}_{2}$.
24. Which of the following statements is CORRECT?
(A) Calcium oxide is an acidic oxide.
(B) Sulphur dioxide is a basic oxide.
(C) Washing soda is used in softening hard water.
(D) Washing soda is an example of deliquescent substance.
25. A signature with a graphite pencil on a paper weighs 10 mg . What will be the number of carbon atoms present in the signature?
(A) $0.02 \times 10^{21}$
(B) $0.502 \times 10^{21}$
(C) $5.02 \times 10^{24}$
(D) $5.02 \times 10^{21}$
26. Which one of the following has the maximum number of atoms of oxygen? (Atomic mass: $\mathrm{H}=1, \mathrm{C}=12,0$ $=16, S=32$ )
(A) $2 g$ of carbon monoxide
(B) $2 g$ of carbon dioxide
(C) $2 g$ of sulphur dioxide
(D) $2 g$ of water
27. An alcohol has a molecular formula $\mathrm{C}_{4} \mathrm{H}_{10} \mathrm{O}$. The molecular formula of its sixth number of its homologous series is
(A) $\mathrm{C}_{6} \mathrm{H}_{16} \mathrm{O}$
(B) $\mathrm{C}_{6} \mathrm{H}_{10} \mathrm{O}$
(C) $\mathrm{C}_{6} \mathrm{H}_{12} \mathrm{O}$
(D) $\mathrm{C}_{6} \mathrm{H}_{14} \mathrm{O}$
28. Which of the following elements exhibit variable valency?
(A) Ca
(B) Potassium
(C) Iron
(D) Zinc
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. The molecular formula of ethanol and ethanal differ by $\qquad$ hydrogen atoms
(A) 2
(B) 3
(C) 1
(D) 4
31. In the reaction $\mathrm{Fe}(\mathrm{s})+\mathrm{CuSO}_{4}(\mathrm{aq}) \rightarrow \mathrm{FeSO}_{4}(\mathrm{aq})+\mathrm{Cu}(\mathrm{s})$
(A) Fe is reduced.
(B) Fe is oxidised.
(C) Cu is oxidized.
(D) Fe acts as an oxidising agent.
32. The hydrogen bond is formed between a hydrogen atom and an atom of
(A) C
(B) F
(C) S
(D) P
33. The type of bond formed between an alkali metal and a halogen is
(A) Ionic
(B) Covalent
(C) Hydrogen
(D) Coordinate
34. When water is added to a glass of lemon juice, its pH
(A) increases
(B) decreases
(C) does not change
(D) unpredictable
35. If the formula of a metal chloride is $\mathrm{MCl}_{3}$, then the formula of its sulphate will be
(A) $\mathrm{M}_{2} \mathrm{SO}_{4}$
(B) $\mathrm{M}_{3}\left(\mathrm{SO}_{4}\right)_{2}$
(C) $\mathrm{M}\left(\mathrm{SO}_{4}\right)_{3}$
(D) $\mathrm{M}_{2}\left(\mathrm{SO}_{4}\right)_{3}$
36. A molecule of nitrogen contains
(A) Two shared pairs and two unshared pairs of electrons
(B) Three shared pairs and two unshared pairs of electrons
(C) Two shared pairs and three unshared pairs of electrons
(D) Three shared pairs and three unshared pairs of electrons
37. In the manufacturing of ethanol from molasses, glucose is converted to ethanol and carbon dioxide by the action of which enzyme?
(A) Invertase
(B) Zymase
(C) Amylase
(D) Sucrase
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. The general formula of an alkene and alkyne differ by
(A) $\mathrm{CH}_{2}$
(B) 2 H
(C) $\mathrm{C}_{2} \mathrm{H}$
(D) 2 C

## Section III: Logical Reasoning

41. If Jan $8^{\text {th }} 2017$ is a Sunday, then what day of the week was it on Jan $8^{\text {th }} 2016$ ?
(A) Thursday
(B) Sunday
(C) Saturday
(D) Friday
42. Two positions of a dice are shown. Which number will appear on the face opposite the one having 5?
(A) 1
(B) 2
(C) 6
(D) 4

43. If Ayesha says, "The father of Hussain is the only son of my father", then how is Ayesha related to Hussain?
(A) Daughter
(B) Sister
(C) M other
(D) None of the above
44. Ahmed is heavier than Amjad but not as much as Hussain. Amjad is heavier than Faisal. Sajid is heavier than Ahmed, but lighter than Shuaib. Who is the lightest?
(A) Hussain
(B) Shuaib
(C) Faisal
(D) Amjad
45. What will come in place of the question mark "?"

B2S, F6P, J14M , ?
(A) N30I
(B) M 241
(C) N30J
(D) P24J
46. What day comes three days after the day which comes two days after the day which comes immediately after the day which comes two days after M onday?
(A) Tuesday
(B) Wednesday
(C) M onday
(D) Sunday
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: Some books are toys. No toy is red.

Conclusions:
I) Some books are red.
II) Some books are not red.

Based on the above statement, which conclusion follows?
(A) Only conclusion I is true
(B) Only conclusion II is true
(C) Both I and II are true
(D) Neither I nor II are true
49. If $3 \times 6=18 ; 4 \times 7=22 ; 9 \times 1=20$, then $5 \times 2=$ ?. Find the value of ? from the following
(A) 7
(B) 10
(C) 14
(D) 3
50. Nitin was counting down from 32. Sumit was counting upwards the numbers starting from 1 and he was calling out only the odd numbers. What common number will they call out at the same time if they were calling out at the same speed?
(A) 19
(B) 21
(C) 22
(D) They will not call out the same number
51. How many lines are there in the given picture?
(A) 12
(B) 24
(C) 11
(D) 13

52. Each entry pass holder can take up to three persons with him/her to the exhibition. In all, 243 passes were sold yesterday. How many visitors saw the exhibition yesterday?
(A) 729
(B) 243
(C) 500
(D) Data insufficient
53. Complete the series: $6,11,18,27,38$, $\qquad$
(A) 61
(B) 51
(C) 52
(D) 62
54. How many times in a day, do the minute and hour hands of a clock coincide?
(A) 11
(B) 12
(C) 22
(D) 24
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. Exercise is to Gym, as Eating is to
(A) Food
(B) Dieting
(C) Fitness
(D) Restaurant
59. Find the missing number represented by the question mark?
(A) 5
(B) 8
(C) 15
(D) 16

60. Find the missing combination of operators in the below equation
$1 . . .2 \ldots 3 \ldots 4=6$
(A),++ ,
(B),,+-+
(C),,--+
(D),,-++

## Section IV: Mathematics

61. Find the value of $300[0.09]^{1 / 2)}[0.027]^{(1 / 3)}$
(A) 25
(B) 9
(C) 27
(D) 3
62. A cube with a side 1 m long has been cut into cubes of a side 0.1 m each. All small cubes have been put one on top of the other, to form a vertical structure. What is the height of this structure?
(A) 100 m
(B) 1 km
(C) 10 km
(D) 1000 km
63. In the following figure, the diameter of circle is $3 \mathrm{~cm} . A B$ and $M N$ are two diameters such that $M N$ is perpendicular to $A B$. In addition, $C G$ is perpendicular to $A B$ such that $A E$ : $E B=1: 2$ and $D F$ is perpendicular to $M N$ such that $N L$ : $L M=1: 2$. The length of $D H$ in cm is
(A) $2 \sqrt{ } 2-1$
(B) $(2 \sqrt{ } 2-1) / 2$
(C) $(3 \vee 2-1) / 2$
(D) $(2 \vee 2-1) / 3$

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. Three points of a triangle ABC are $\mathrm{A}(4,1), \mathrm{B}(5,-1)$ and $\mathrm{C}(7,2)$. The triangle lies in
(A) 1st and 2nd quadrant
(B) 2nd and 3rd quadrant
(C) 1st and 4th quadrant
(D) 2nd quadrant
67. $2\left(\sin ^{6} \theta+\cos ^{6} \theta\right)-3\left(\sin ^{4} \theta+\cos ^{4} \theta\right)$ 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 ?
(A) $1 / 10$
(B) $1 / 5$
(C) $3 / 10$
(D) $2 / 5$
69. If $\frac{2^{m+n}}{2^{n-m}}=16$, and $a=2^{1 / 10}$ then $\frac{\left(a^{2 m-n+p}\right)^{2}}{\left(a^{m-2 n+2 p}\right)}$ is
(A) $2^{3 / 5}$
(B) $\sqrt[5]{8}$
(C) Both (A) and (B)
(D) 1
70. A rectangle is $(p+3 q+r) c m$ long and $(p+q+3 r) c m$ wide. If the perimeter of a square is equal to the perimeter of the rectangle, by how much does the area of the square exceed the area of the rectangle?
(A) $2 q r+q^{2}+r^{2}$
(B) $-2 q r+q^{2}+r^{2}$
(C) $2 q r-q^{2}-r^{2}$
(D) $2 q r+q^{2}-r^{2}$
71. A general wishes to draw up his 36562 soldiers in the form of a solid square. After arranging them, he found that some of them are left over. How many are left?
(A) 36
(B) 65
(C) 81
(D) 97
72. In the diagram $A B$ is a straight line. The value of $x$ is
(A) 67
(B) 59
(C) 62
(D) 40

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. If $(2 x+3 y)$ is divisible by 17 , then for what value of $k$ will $(9 x+k y)$ is divisible by 17 ?
(A) 3
(B) 5
(C) 7
(D) 9
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 committee of 5 persons is to be formed from 6 men and 4 women. In how many ways can this be done when at least 2 women are included?
(A) 196
(B) 186
(C) 190
(D) 200
77. In an arithmetic progression, the sum of first term, third term and the fifth term is 39 and the sum of second term, fourth term and the sixth term is 51 . The tenth term of the sequence is
(A) 41
(B) 40
(C) 39
(D) 51
78. A solid hemisphere of wax of radius 12 cm is melted and made into a cylinder of its base radius 6 cm . The height of the cylinder is
(A) 32 cm
(B) 23 cm
(C) 24 cm
(D) 20 cm
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 $m$ and $n$ are the roots of the equation $x^{2}-5 x+3=0$, then the value of $(m+n)^{3}+4 m n$ is
(A) 125
(B) 150
(C) 137
(D) 140

## Section V: Biology

81. A Segment of DNA contains 1200 nucleotides, of which 200 have adenine base. How many cytosine bases are present in this segment of DNA?
(A) 100
(B) 800
(C) 200
(D) 400
82. Match the items given in column $A$ and column $B$ and identify the correct alternative listed below

| Column A | Column B |  |
| :--- | :--- | :--- |
| a. Flying fish | i. $\quad$ Draco |  |
| b. Flying lizard | ii. | Echidna |
| c. Egg laying mammals | iii. | Exocoetus |
| d. Flightless bird | iv. | Struthio |

(A) a-(i) b-(iii) c-(ii) d-(iv)
(B) a-(iii) b-(i) c-(ii) d-(iv)
(C) a-(iii) b-(i) c-(iv) d-(ii)
(D) a-(i) b-(ii) c(iv) d(ii)
83. A leguminous plant growing in an autoclaved, sterilized soil fails to produce root nodules because
(A) Autoclaved soil is not good for root growth.
(B) Autoclaving reduces $\mathrm{N}_{2}$ content of soil.
(C) Autoclaved soil is devoid of bacteria.
(D) Plants cannot form root hairs in such soil.
84. The causative agent of the disease 'sleeping sickness' in human beings is an
(A) Intracellular parasite found in RBC.
(B) Extracellular parasite found in blood plasma.
(C) Intracellular parasite found in WBC.
(D) Extracellular parasite found on the surface of platelets.
85. The gene of hemophilia is present on X-chromosome. If a hemophilic male marries a normal female, the probability of their son being hemophilic is
(A) Nil
(B) $25 \%$
(C) $50 \%$
(D) $100 \%$
86. Abundance of coliform bacteria in a water body is indicative of pollution from
(A) Petroleum refinery
(B) M etal smelter
(C) Domestic sewage
(D) Fertilizer factory
87. The girth of stem increases due to activity of
(A) Lateral meristem
(B) Apical meristem
(C) Intercalary meristem
(D) Apical and intercalary meristem
88. Triticale has been developed through intergeneric hybridization between
(A) Wheat \& rice
(B) Wheat \& rye
(C) Rice \& maize
(D) Wheat \& goat grass
89. In human female, immature eggs are seen in ovary for the first time
(A) At puberty
(B) Before birth, at foetus stage
(C) During the first menstrual cycle
(D) After the first year of birth
90. Which cells are produced in the bone marrow?
(A) Chondrocytes \& muscle cells
(B) Blood cells \& neurons
(C) Stem cells \& neurons
(D) Stem cells \& blood cells
91. If cerebellum of man gets damaged, his movement becomes
(A) Shaky \& speech becomes defective
(B) Unbalanced, walk uncontrolled, defective speech \& intention tremor
(C) Jerky \& defective speech
(D) Jerky \& walk uncontrolled
92. According to Mendel, each gamete carries only one factor or allele either dominant or recessive. This is called
(A) Law of purity of gamete
(B) Law of segregation
(C) Principle of dominance
(D) Both A \& B
93. Project Tiger, an initiative by the central government was launched on $\qquad$
(A) April 1, 1973
(B) April 2, 1971
(C) June 5, 1985
(D) May 1, 1995
94. 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 filteration
95. The era during which Dinosaurs, toothed birds, pterosaurs, egg laying mammals and amphibians were found
(A) Proterozoic era
(B) Paleozoic era
(C) Coenozoic era
(D) Mesozoic era
96. Hydrilla is
(A) cross pollinated by water
(B) cross pollinated by wind
(C) cross pollinated by bat
(D) cross pollinated by insects
97. The famous 'swan necked flask' experiment was conducted by
(A) Louis Pasteur
(B) Darwin
(C) Lamark
(D) Johan Mendal
98. The cells whose number varies from 4.5 to 5.5 million cells / cubic mm of blood are
(A) Platelets
(B) Red blood cells
(C) White blood cells
(D) Granulocytes
99. Development of fruit without fertilization is
(A) Adventive embryony
(B) Parthenocarpy
(C) Parthenogenesis
(D) Poly embryony
100. Androgens are secreted by
(A) Pineal gland
(B) Pancreas
(C) Ovary
(D) Testis

