FIITJEE Talent Reward Exam - 2018

for students presently in

Class 9

Paper 1

Time: 3 Hours (9:30 am - 12:30 pm)

Code 9000

Maximum Marks: 210

Instructions:

Caution: Class, Paper, Code as given above MUST be correctly marked on the answer OMR sheet before attempting the paper. Wrong Class, Paper or Code will give wrong results.

- 1. You are advised to devote 60 Minutes on Section-I, 60 Minutes on Section-II and 60 Minutes on Section-III.
- 2. This Question paper consists of 3 sections. Marking scheme is given in table below:

| Section | Subject | Question no. | Marking Scheme for each question | | | |
|---------------|----------------------|--------------|----------------------------------|--------------|--|--|
| Section | Subject | Question no. | correct answer | wrong answer | | |
| SECTION - I | APTITUDE | 1 to 30 | +3 | 0 | | |
| | PHYSICS (PART-A) | 31 to 39 | +2 | 0 | | |
| | CHEMISTRY (PART-B) | 40 to 48 | +2 | 0 | | |
| SECTION – II | MATHEMATICS (PART-C) | 49 to 57 | +2 | 0 | | |
| | BIOLOGY (PART-D) | 58 to 66 | +2 | 0 | | |
| | PHYSICS (PART-A) | 67 to 78 | +1 | 0 | | |
| | CHEMISTRY (PART-B) | 79 to 90 | +1 | 0 | | |
| SECTION – III | MATHEMATICS (PART-C) | 91 to 102 | +1 | 0 | | |
| | BIOLOGY (PART-D) | 103 to 114 | +1 | 0 | | |

- 3. Answers have to be marked on the OMR sheet. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
- 4. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
- 5. Before attempting paper write your OMR Answer Sheet No., Registration Number, Name and Test Centre in the space provided at the bottom of this sheet.

Note: Please check this Question Paper contains all 114 questions in serial order. If not so, exchange for the correct Question Paper.

| OMR Answer Sheet No. | : |
|-----------------------|---|
| Registration Number | : |
| Name of the Candidate | : |
| Test Centre | : |
| | |

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Recommended Time: 60 Minutes for Section – I

Section – I

APTITUDE TEST

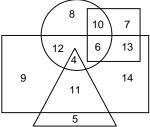
This section contains **30 Multiple Choice Questions** number **1 to 30**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

Directions (Q. 1 to 6): In each of the following questions, a number/letter series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

| | Sna | ce for Pough Work | |
|----|---|--------------------|--|
| | (A) 100 (C) 60 | (B) 70 (D) 20 | |
| 5. | 120, ?, 24, 6, 0. | (P) 70 | |
| 4. | 5, 11, 19, ?, 41 (A) 28 (C) 30 | (B) 29 (D) 35 | |
| 3. | 8, 27, 64, ?, 216, 343. (A) 125 (C) 100 | (B) 81 (D) 196 | |
| 2. | MYZ, LWX, ?, JST (A) KUV (C) HOP | (B) IQR (D) GMN | |
| 1. | AN, CP, FS, ? (A) IV (C) KX | (B) JW (D) LW | |

729, 81, 9, 1, $\frac{1}{9}$, ?, $\frac{1}{729}$. 6. (A) $\frac{1}{27}$ (B) $\frac{1}{81}$ (C) $\frac{1}{243}$ (D) $\frac{1}{486}$ 7. If in a coded language the word 'REKHA' is written as 'AHKER' then in the same code language 'HEMA' will be written as (A) AMEH (B) EMAH (C) MAHE (D) EAMH 8. If in a coded language the word CHILDREN is written as EJKNFTGP then TEACHER will be written as (A) VGCEJTG (B) VGCEJGT (C) VGCJEGT (D) VGCGEJT 9. A is paternal uncle of B, B is daughter of C, C is the wife of D's son. Then how is A related to D? (A) Son (B) Brother (C) Father (D) Maternal uncle Ram travels 8 km to south, then moves to right and travels 6 km and at the end he again moves 10. right and travels 8 km. Then finally how much shortest distance of Ram from initial point is (A) 6 km (B) 8 km (C) 10 km (D) 14 km 11. If A = x% of y and B = y% of x, then which of the following is true? (A) A = B(B) A < B(C) A > B(D) None of these If 'A3P' means 'A is the mother of P', 'A4P' means 'A is the brother of P', 'A9P' means 'A is the 12. husband of P' and 'A5P' means 'A is the daughter of P', then which of the following means that K is the mother-in-law of M? (A) M9N3K4J (B) M9N5K3J (C) K5J9M3N (D) K3J9N4M

Directions (Q. 13 to 14): In the following diagram rectangle represents men, triangle represents educated, circle represents urban and square represents government employees.



- 13. Which one of the following number represents the educated men but not urban?
 (A) 9
 (B) 5
 (C) 4
 (D) 11
- 14. Which one of the following represents men who are urban as well as government employees?
 (A) 7
 (B) 13
 (C) 10
 (D) 6
- 15. Pointing to a lady, a man said "The son of her only brother is the brother of my wife". How is the lady related to the man?
 - (A) Mother's sister
 - (C) Sister of father-in-law

- (B) Grandmother
- (D) Maternal aunt
- 16. When the following figure is folded to form a cube, which number is opposite to the face 3?

| 1 | | |
|----------------|----------------|--|
| 3 2 | | |
| 4 | | |
| 5 6 | | |
| (A) 1 (C) 5 | (B) 4 (D) 6 | |
| (C) 5 | (D) 6 | |

- 17. Sara is older than Mala. Gopal is older than Mala but younger than Sara. Kapil is younger than Ram and Mala. Mala is older than Ram. Who is the eldest?(A) Sara(B) Mala
 - (C) Kapil (D) Gopal
- In a coded language 'RUSTY' is written as 96872. Then in the same coded language 'ZXWV' will be written as

 (A) 1354
 (B) 1543
 - (C) 1345 (D) 1545 (C) 1345
- 19. Arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

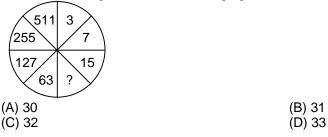
| 1. Spruce | 2. Spume | 3. Spree | 4. Spurt | 5 . | Sprawl |
|-----------------|----------|----------|-------------------|------------|--------|
| (A) 5, 3, 1, 2, | , 4 | | (B) 1, 2, 3, 4, 5 | | |
| (C) 3, 5, 1, 4, | , 2 | | (D) 5, 4, 3, 2, 1 | | |

Directions (Q. 20 to 21): Study the following arrangement of the English alphabet and answer the questions given below:

FJMPOWRNBEYCKAVLDGXUHQISZT

- Which letter is tenth to the right of the letter which is exactly the middle letter between F and D?
 (A) D
 (B) G
 (C) H
 (D) X
- 21. **FJM** is related to **TZS** in the same way as **JMP** is related to (A) IZS (B) ZSI (C) ZIS (D) ISZ

22. Find the missing term in the following figures.



23. If every letter of English Alphabets beginning from 'B' is replaced by consecutive odd number beginning with 3, which number will be 3rd to the right of the 10th letter counting from the right end?

| (A) 17 | (B) 33 |
|--------|--------|
| (C) 23 | (D) 39 |

If '--' stands for addition, '+' stands for subtraction, '+' stands for multiplication and 'x' stands for 24. division, then which one of the following equations is correct?

| (A) 25 × 5 ÷ 20 − 27 + 7 = 120 | (B) 25 + 5 × 20 − 27 ÷ 7 = 128 |
|---|--------------------------------|
| (C) $25 + 5 - 20 \div 27 \times 7 = 95$ | (D) 25 – 5 + 20 × 27 ÷ 7 = 100 |

Directions (Q. 25 to 27): Study the following information carefully and answer the questions given below: Eight friends A, B, C, D, E, F, G and H are sitting around a circular table facing the centre, not necessarily in the same order. C is third to the left of E, B is not an immediate neighbour of either E or C. H is not an immediate neighbour of E. D is third to the right of B, H is second to the left of A. F is not immediate neighbour of H.

| 25. | Who is sitting | third to the left of B? | |
|-----|----------------|-------------------------|-------|
| | (A) E | | (B) A |
| | (C) G | | (D) B |

26. Which of the following pairs of people correctly represents the pair of people who are immediate neighbour of H?

| (A) DG (C) AD | | (B) GA (D) BG |
|------------------|--------------------------|------------------|
| Who is (A) H | sitting between B and C? | (B) F |

27.

(C) A

| | (B) |
|--|-----|
| | (D) |

Space for Rough Work

G

FTRE-2018-C-IX (Paper-1)-AT+S&M-7

Directions (Q. 28 to 30): In each question below is given a group of letter followed by found combination of digits/symbol numbered (A), (B), (C) and (D). You have to find out which of the four combination correct represents combination as your answers.

| Letter | R | Е | Α | U | М | D | F | Р | Q | I | 0 | Н | Ν | W | Ζ | В |
|--------|-----------------------|--------------|---------|--------|----------|---------|----------|---------|--------------------|---------|---------|--------|-------|--------|--------|-------|
| Symbol | 7 | # | \$ | 6 | % | 8 | 5 | * | 4 | 9 | @ | © | 3 | β | 1 | 2 |
| (i) I | f first le | etter is | a con | Isonan | t and | the thi | rd lette | er is a | vowel | , their | codes | are to | be in | tercha | nged. | |
| (ii) | f the fi | rst lett | er is a | a vowe | l and | the for | urth le | tter is | a cons | sonant | t, both | are to | be co | oded a | as the | code |
| 1 | or the | vowel. | | | | | | | | | | | | | | |
| | f the s | econd | and t | he thi | rd lette | ers are | e cons | sonant | both a | are to | be co | ded a | s the | code f | or the | third |
| l | etter. | | | | | | | | | | | | | | | |
| 00 | | | | | | | | | | | | | | | | |
| - | NABAC (A) 2\$3 | - | | | | | | (| ວາວ¢ | ዮ ለ ዛ | | | | | | |
| | A) 253 C) 3\$2 | | | | | | | | B) 32\$ D) 3\$2 | | | | | | | |
| | C) 392 | . φ4# | | | | | | (| D) 392 | _¢0# | | | | | | |
| 29. | WZEF | RA | | | | | | | | | | | | | > | |
| | A) 5β# | | | | | | | (| Β) 5 ββ | #7\$ | | | | | | |
| | C) β17 | | | | | | | | D) 511 | | | | | | | |
| | -, p | ·· Ŧ | | | | | | (| _, | | | | | | | |
| 30. | EMIRD | P | | | | | | | | | | | | | | |
| | (A) #%978* (B) #%9#8* | | | | | | | | | | | | | | | |
| | (C) 7%9#8* (D) #9%78* | | | | | | | | | | | | | | | |
| | | | | | | Sna | co for | Rough | Work | | | | | | | |

Recommended Time: 60 Minutes for Section – II

Section – II

PHYSICS - (PART - A)

This part contains **9** Multiple Choice Questions number **31 to 39**. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

| 31. | The S.I. unit of acceleration is :- (A) meter (C) m/sec | (B) second (D) m/sec ² |
|-----|---|---|
| 32. | Which of the following is a scalar quantity? (A) Displacement (C) Acceleration | (B) Velocity(D) Distance |
| 33. | Slope of velocity – time graph at an instant will g (A) Acceleration (C) Displacement | give us : (B) Distance (D) None of these |
| 34. | Find the force applied by block A on block surfaces are smooth) (A) 10 N (C) 7 N | B. (All the (B) 5 N (D) 15 N $A B 5 N 5 N 5 N 7 7 7 7 7 7 7 7 7 $ |
| 35. | Inertia of a body depends on :- (A) Velocity (C) Acceleration | (B) Mass (D) Speed |
| 36. | If a resultant force of 30 N acts on a body of mas (A) 20 m/sec^2 | ss 6 kg. What is the acceleration of the body? (B) 12 m / sec ² |
| | (C) 5 m/sec^2 | (D) 8 m/sec^2 |
| 37. | Gravitational force between two spherical bodies | s is directly proportional to which of the following |
| | quantity? (A) Distance between the bodies (C) Speed of the bodies | (B) Velocities of the bodies(D) Masses of the bodies |
| 38. | If a planet moves around the star in circular orbit (A) Speed (C) Velocity | t then which quantity does not change with time? (B) Momentum (D) None of these |
| 39. | What is the value of gravitational acceleration at (A) $10 \text{ m}/\text{sec}^2$ | the center of the earth? (B) 0 m / sec ² |
| | (C) Infinite (∞) | (D) 5 m/sec^2 |
| | | |

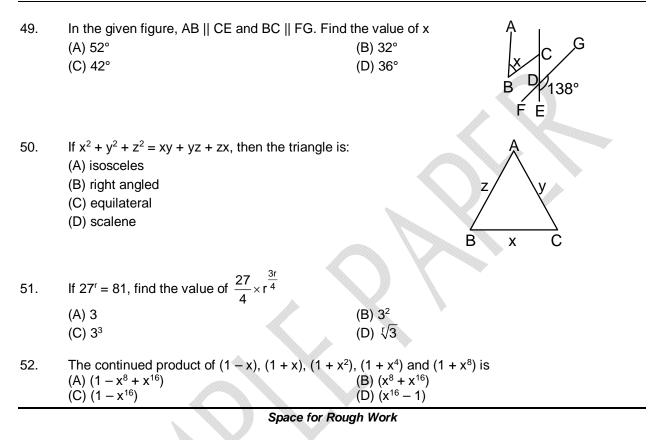
CHEMISTRY - (PART - B)

This part contains **9** Multiple Choice Questions number **40** to **48**. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

| 40. | The increasing order of forces of attraction is : (A) Water < air < rubber (C) Hydrogen < wood < juice | (B) Wind < sugar < oil (D) Air < juice < salt | | | | |
|--|---|---|--|--|--|--|
| 41. | Which of the following behave like fluids? (A) Only gases (C) Only liquids | (B) Gases and liquids(D) Gases, solids and liquids | | | | |
| 42. | Which of the following compound will undergo sublimation?(A) Sugar(B) Salt(C) Camphor(D) None of these | | | | | |
| 43. | At what temperature, does ice and water co-exist together at 1 atmospheric pressure?(A) 298 K(B) 273 K(C) 300 K(D) All of these | | | | | |
| 44. | What is the SI unit of temperature? (A) Celsius (C) Kelvin | (B) Fahrenheit(D) None of these | | | | |
| 45. | Solubility of solids in liquids increase with: (A) Decrease in temperature (C) Increase in temperature | (B) Increase in pressure(D) Decrease in pressure | | | | |
| 46. | A non-metal which has lustre is: (A) Mercury (C) Copper | (B) lodine (D) Nitrogen | | | | |
| 47. | Common salt obtained from sea water is impure (A) Evaporation (C) Crystallization | e. It is purified by : (B) Fractional distillation (D) Distillation | | | | |
| 48. At 100°C steam has more heat energy than the energy of boiling water because (A) Steam has lesser kinetic energy than boiling water (B) Steam has latent heat of vapourization (C) Steam has lesser potential energy than boiling water (D) All of the above | | | | | | |
| Space for Rough Work | | | | | | |

MATHEMATICS - (PART - C)

This part contains **9** Multiple Choice Questions number **49** to **57**. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.



FTRE-2018-C-IX (Paper-1)-AT+S&M-11

| 53. | Determine the ratio in which $y - x + 2 = 0$ divide (A) 3 : 5 (C) 2 : 3 | es the line joining (3, – 1) and (8, 9) (B) 4 : 3 (D) none of these |
|-----|--|--|
| 54. | Find the value of k, if the points (-2, 5), (-5, - (A) $\frac{5}{28}$ (C) 28 | 10) and (k, – 13) are collinear (B) – $\frac{28}{5}$ (D) 5 |
| 55. | The expression $(x + y)^{-1}(x^{-1} + y^{-1})$ is equivalent t (A) 1 (C) x^y | o (B) (xy) ⁻¹ (D) xy ⁻¹ + x ⁻¹ y |
| 56. | side 56m. (A) 15 m (C) 18.6 m | respectively. Find the length of the altitude on the (B) 16.5 m (D) 21 m |
| 57. | If $x^{x^{\frac{3}{2}}} = \left(x^{\frac{3}{2}}\right)^{x}$, then the value of x can be (A) $\frac{3}{2}$ (C) $\frac{16}{25}$ | (B) $\frac{9}{4}$ (D) $\frac{8}{27}$ |
| | 25 Space for Pol | |

BIOLOGY - (PART - D)

This part contains **9** Multiple Choice Questions number **58** to **66**. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

| 58. | Which of the following is not included in "organic(A) Compost(C) Crop rotation | c farming"? (B) Green manure (D) Synthetic fertilizers | | | |
|-----|--|--|--|--|--|
| 59. | Red Sindhi, Sahiwal, Jersey and Brown Swiss a (A) Goat (C) Cow | re breeds of (B) Buffalo (D) Poultry | | | |
| 60. | When fluoride concentration in water exceeds 1.(A) Itai-Itai(C) Blue baby syndrome | 5 mg/lit, the disease that may be caused is: (B) Polio (D) Fluorosis | | | |
| 61. | Which of the following statements about forest is/are incorrect? (I) Forest provides recreational opportunities. (II) Forest helps in economic development. (III) Forest reduces soil erosion | | | | |
| | (A) (I) and (II) only(C) (III) only | (B) (II) and (III) only(D) None of the above | | | |
| 62. | Phagocytosed food is digested with the help of e (A) Ribosomes (C) Mitochondria | enzymes which are present in (B) Lysosomes (D) Golgi complex | | | |
| 63. | The cell theory is not applicable to (A) Bacteria (C) Virus | (B) Algae (D) Fungi | | | |
| 64. | A plant tissue whose cells are capable of dividin (A) Complex tissue (C) Permanent tissue | g and redividing is called (B) Connective tissue (D) Meristematic tissue | | | |
| 65. | Parenchyma : Simple : : Phloem : (A) Simple (C) Complex | (B) Collenchyma (D) Xylem | | | |
| 66. | Statement I: The cells of parenchyma are dead a Statement II: Lignin makes the walls of cork imp (A) If both statement I and II are true (B) If both statement I and II are false (C) If statement I is true, statement II is false (D) If statement I is false, statement II is true | and have thick deposition of lignin on their walls. ervious to gases and water. | | | |

Recommended Time: 60 Minutes for Section – III

Section – III

PHYSICS - (PART - A)

This part contains **12 Multiple Choice Questions** number **67 to 78.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

67. A body starts from rest with an acceleration of 2 m / sec². Find the displacement of the body in 5 second from the start.
(A) 25 meter
(B) 50 meter

| (A) 25 meter | (B) 50 meter |
|--------------|--------------|
| (C) 10 meter | (D) 10 meter |

- 68. A body is thrown vertically upwards with an initial velocity of 20 m/sec from the ground. Find the speed of the ball when it reaches half of the maximum height. (Take $g = 10 \text{ m/sec}^2$).
 - (A) 2 m/s (C) 10√2 m/s

(B) 200 m/s (D) 30 m/s

- 69. A particle starts from rest and moves in a straight line, it's velocity time graph is shown in figure. Find the acceleration of the body (A) 80 m / sec² (B) 10 m / sec² (C) 36 m / sec² (D) 44 m / sec² Time (second)
- 70. If a body is just released from a height 80 meter above the ground. What time it will take to reach the ground. (Take $g = 10 \text{ m/sec}^2$)
 - (A) $2\sqrt{2}$ seconds(B) 8 seconds(C) 2 seconds(D) 4 seconds

| 71. | A resultant force of 40 N acts for 4 seconds on momentum of the body at 4 seconds? | | |
|-----|---|--|--|
| | (A) 80 kg m/sec (C) 160 kg m/sec | (B) 20 kg m/sec (D) 22 kg m/sec | |
| 72. | According to Newton's second law, rate of char quantity? | nge of momentum is equal to which physical | |
| | (A) Acceleration(C) Velocity | (B) Force (D) Mass | |
| 73. | If a body is thrown vertically upwards with a vel of the body when it reaches its maximum heigh | ocity of 90 m/sec from the ground. The momentum t is. | |
| | (A) Zero (C) 9 kg m/sec | (B) 90 kg m/sec (D) 100 kg m/sec | |
| 74. | | cular to each other on a body. What is the resultant | |
| | force acting on the body? (A) 7 N (C) 12 N | (B) 1 N (D) 5 N | |
| 75. | Value of gravitational acceleration on the earth (A) Mass of earth (C) Time on the earth surface | surface depends on which factor? (B) Friction on the earth surface (D) None of these | |
| 76. | Value of gravitational acceleration at a depth ed (Take $g = 10 \text{ m/s}^2$ at the surface of the earth). | | |
| | (A) 9.8 m / sec ² | (B) 5 m/sec^2 | |
| | (C) 10 m / sec ² | (D) 2 m/sec^2 | |
| 77. | As we move above the surface of the earth. Ho | | |
| | (A) It remain same(C) It decreases | (B) It increases(D) None of these | |
| 78. | | eleration of $6 \text{ m}/\text{sec}^2$. Find the displacement of | |
| | the body in 6 th second of its motion. | | |
| | (A) 30 meter (C) 22 meter | (B) 36 meter (D) 33 meter | |
| | Space for Rol | | |
| | | | |
| | | | |
| | | | |

CHEMISTRY - (PART - B)

This part contains **12 Multiple Choice Questions** number **79 to 90**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

| 79. | Tyndall effect in colloids is due to : (A) Absorption of light (C) Scattering of light | (B) Merging of light rays(D) Convergence of light rays |
|-----|--|---|
| 80. | Which of the following statement is true (A) Brass is an element (C) Fog is a gel | (B) Dry ice is a mixture(D) Gunpowder is a mixture |
| 81. | Highest energy state of matter among the follow (A) Plasma (C) Gas | ing is (B) BEC (D) Solid |
| 82. | Which of the following statement is NOT correct(A) Milk is an example of colloidal solution(B) Colloidal solution shows electrophoresis(C) Colloidal solution is a homogenous mixture(D) Sky appears blue due to Tyndall effect. | ? |
| 83. | A mixture of blue ink and red ink can be separate (A) Evaporation (C) Chromatography | ed by (B) Distillation (D) Filtration |
| 84. | At 20°C the solubility of salt X is 34.7 g in 100 g g/ml, the weight/volume (w/v) percentage of solu (A) 25.76 (C) 33.49 | of water. If the density of saturated solution is 1.3 (B) 32.98 (D) 22.56 |

| 85. | is an example of solid in solid solution. | | | |
|-----|---|--|--|--|
| | (A) Cold drinks | (B) German silver | | |
| | (C) Dust particles in air | (D) Fog | | |
| 86. | The process which is responsible for the formation is : | on of delta at a place where river meets the sea | | |
| | (A) Coagulation | (B) Colloid formation | | |
| | (C) Emulsification | (D) All of these | | |
| 87. | A gas can be liquefied | | | |
| | (A) Above its critical temperature | (B) At any temperature | | |
| | (C) Below its critical temperature | (D) None of these | | |
| 88. | In paints dispersed phase and dispersion mediu | m are respectively | | |
| | (A) Solid and liquid | (B) Liquid and solid | | |
| | (C) Liquid and liquid | (D) Gas and liquid | | |
| 89. | The highest temperature among the following is | | | |
| | (A) 200°F | (B) 273 K | | |
| | (C) 105°C | (D) 295 K | | |
| 90. | Which of the following solutions shows Tyndall e | ffect? | | |
| | (A) Milk | (B) Salt solution | | |
| | (C) Sugar solution | (D) Copper sulphate solution | | |

MATHEMATICS – (PART – C)

This part contains **12 Multiple Choice Questions** number **91 to 102.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

| 91. | The ratio of two numbers is 15 : 11. If their HCF (A) 15, 11 (C) 105, 77 | be 13 then these numbers will be (B) 75, 55 (D) 195, 143 | | |
|-----|--|---|--|--|
| 92. | If two angles are complementary to each other, (A) a right angle (C) an obtuse angle | then each angle is (B) a supplementary angle (D) an acute angle | | |
| 93. | A (- 3, 2) and B(5, 4) are the end points of a line segment. Find the co-ordinates of the mid point | | | |
| | of the line segment. (A) (1, 3) (C) (3, 2) | (B) (2, 3) (D) (4, 3) | | |
| 94. | In a triangle ABC, if AB, BC and AC are the three sides of the triangle, then which of the following | | | |
| | statements is necessarily true? (A) AB + BC < AC (C) AB + BC = AC | (B) $AB + BC > AC$ (D) $AB^2 + BC^2 = AC^2$ | | |
| 95. | If x and y are positive real numbers, then | | | |
| | (A) $x > y \Rightarrow -x > -y$ | (B) $x > y \Rightarrow -x < -y$ | | |
| | (C) $x > y \Rightarrow \frac{1}{x} > \frac{1}{y}$ | (D) $x > y \Rightarrow -\frac{1}{x} < -\frac{1}{y}$ | | |
| 96. | The remainder when $x^4 - y^4$ is divided by $x - y$ i | s | | |
| | (A) 0 (C) $x^2 - y^2$ | (B) $x + y$ (D) $2x^4$ | | |
| | $(C) X^2 - y^2$ | (D) 2y ⁴ | | |

| 97. | If in a \triangle ABC, 'S' is the circumcentre, then (A) S is equidistant from all the vertices of the r (B) S is equidistant from all the sides of the tria (C) AS, BS and CS are angle bisectors (D) AS, BS and CS produced are the altitudes | Ingle |
|------|---|---|
| 98. | Find the number of numbers lying between 1 a (A) 6 (C) 4 | nd 1000 which are divisible by each of 6, 7 and 15. (B) 5 (D) 3 |
| 99. | In the given diagram of $\triangle ABC$, $\angle B = 80^{\circ}$, $\angle C$ are the angle bisectors of $\angle CBD$ and $\angle BCE$ the value of $\angle BFC$ (A) 110° (C) 125° | |
| 100. | The unit digit of every prime number(other than (A) 1, 3 or 5 (C) 7 or 9 | n 2 and 5) must be necessarily. (B) 1, 3, 7 or 9 (D) 1 or 7 |
| 101. | The value of $\left[\frac{1}{\sqrt{5}-2} + \frac{1}{\sqrt{5}+2}\right]^2$ is | |
| | (A) 10√5 (C) 10 | (B) 2√5 (D) 20 |
| 102. | If $a^{1/m} = b^{1/n} = c^{1/p}$ and $abc = 1$ then $m + n + p$ is (A) 0 (C) 1 | (B) 2 (D) - 2 |

BIOLOGY - (PART - D)

This part contains **12 Multiple Choice Questions** number **103 to 114**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

| 103. | andconsists of agro f | orestry. | | |
|---|---|---|--|--|
| | (A) Fodder crops, fibre crops | (B) Food crops, fibre crops | | |
| | (C) Fodder crops, grasses | (D) Food crops, tree crops | | |
| 104. | Which of the following are sensitive to SO2 pollu | ition? | | |
| | (A) Mosses | (B) Lichens | | |
| | (C) Algae | (D) Ferns | | |
| 105. | Which of the following will be harmed most i pesticide in water? | n a food chain due to the presence of harmful | | |
| | (A) Phytoplankton | (B) Zooplankton | | |
| | (C) Small fishes | (D) Kingfisher | | |
| 106. Which of the following is associated with the structure of mitochondria? | | | | |
| | (A) Cristae | (B) Cisternae | | |
| | (C) Grana | (D) Quantasomes | | |
| 107. | Which among the following are functions of cent | trosomes? | | |
| | (I) Cell wall formation | | | |
| | (II) Osmoregulation | | | |
| | (III) Formation of spindle fibres(A) (I) and (II) only | (B) (II) and (III) only | | |
| | (C) (III) only | (D) (II) only | | |
| 108. | The tissue that helps in the movement of our bo | dv are | | |
| | (A) Muscular tissue | (B) Skeletal tissue | | |
| | Č) Nervous tissue | D All of the above | | |
| | Space for Rou | gh Work | | |
| | | | | |

- 109. Apiculture and Sericulture deals with.....and.....respectively
 - (A) Honeybee, Silkmoth
 - (C) Honeybee, Lac insect

- (B) Silkmoth, Honeybee
- (D) Lac insect, Honeybee
- 110. To solve the food problem of the country, which among the following is not completely necessary?
 - (A) To improve the variety of crops
 - (B) To increase the production of crops
 - (C) To protect the crops from diseases and pests
 - (D) To adapt organic farming
- 111. The pollutant 'A' can contaminate the water bodies making the fishes, shrimps and crabs highly poisonous. The accumulated pollutant in the sea food intoxicates people who feed upon these sea foods. It causes severe neurological problems. Identify the pollutant 'A'.
 - (A) Fluorine

(B) Mercury

(C) Nitrates

- (D) Cadmium
- 112. Pancreatic cells help in the secretion of proteinaceous hormones. Which of the following should be higher in number in pancreatic cells?
 - (A) RER
 - (C) Lysosome

- (B) SER
- (D) Centrosome
- 113. The complex tissues among the following are:
 - (A) Xylem and Phloem
 - (C) Parenchyma and Collenchyma
- (B) Idioblasts and Chlorenchyma
- (D) Stone cells and Sclerenchyma fibres
- 114. Which of the following are the cells of connective tissue?
 - (I) Neutrophils
 - (II) Plasma cells
 - (III) Adipocytes
 - (IV) Myofibrils
 - (A) (I), (II) and (III) only
 - (C) (I), (III) and (IV) only

(B) (II), (III) and (IV) only (D) (I), (II) and (IV) only

FIITJEE TALENT REWARD EXAM

CLASS – IX (PAPER – 1) ANSWERS

| 1. | В | 2. | Α | 3. | A | 4. | в |
|------|---|------|---|------|---|------|---|
| 5. | С | 6. | В | 7. | Α | 8. | В |
| 9. | Α | 10. | Α | 11. | Α | 12. | В |
| 13. | D | 14. | D | 15. | С | 16. | D |
| 17. | Α | 18. | С | 19. | Α | 20. | D |
| 21. | В | 22. | В | 23. | D | 24. | Α |
| 25. | Α | 26. | D | 27. | C | 28. | С |
| 29. | D | 30. | в | 31. | D | 32. | D |
| 33. | Α | 34. | C | 35. | В | 36. | С |
| 37. | D | 38. | A | 39. | В | 40. | D |
| 41. | В | 42. | C | 43. | В | 44. | С |
| 45. | С | 46. | В | 47. | С | 48. | В |
| 49. | С | 50. | C | 51. | В | 52. | С |
| 53. | c | 54. | В | 55. | В | 56. | Α |
| 57. | В | 58. | D | 59. | С | 60. | D |
| 61. | D | 62. | В | 63. | С | 64. | D |
| 65. | C | 66. | В | 67. | Α | 68. | С |
| 69. | В | 70. | D | 71. | С | 72. | В |
| 73. | Α | 74. | D | 75. | Α | 76. | В |
| 77. | c | 78. | D | 79. | С | 80. | D |
| 81. | Α | 82. | С | 83. | С | 84. | С |
| 85. | В | 86. | Α | 87. | С | 88. | Α |
| 89. | С | 90. | Α | 91. | D | 92. | D |
| 93. | Α | 94. | В | 95. | В | 96. | Α |
| 97. | Α | 98. | С | 99. | D | 100. | В |
| 101. | D | 102. | Α | 103. | D | 104. | В |
| 105. | D | 106. | Α | 107. | С | 108. | D |
| 109. | Α | 110. | D | 111. | В | 112. | Α |
| 113. | Α | 114. | Α | | | | |
| | | | | | | | |