

# FIITJEE Admission Test

for students presently in **Class 9 (Paper 1)**

Time: 3 Hours (9:00 am – 12:00 pm)

**CODE: 910-1**

Maximum Marks: 266

**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.

- You are advised to devote 60 Minutes on Section-I, 45 Minutes on Section-II, 30 Minutes on Section-III and 45 Minutes on Section-IV.
- This Question paper consists of 4 sections. Marking scheme is given in table below:

Section	Subject	Question no.	Marking Scheme for each question	
			Correct answer	Wrong answer
SECTION – I	APTITUDE TEST	1 to 30	+3	0
SECTION – II	PHYSICS (PART-A)	31 to 39	+2	0
	CHEMISTRY (PART-B)	40 to 48	+2	0
	MATHEMATICS (PART-C)	49 to 57	+2	0
	BIOLOGY (PART-D)	58 to 66	+2	0
SECTION – III	PHYSICS (PART-A)	67 to 72	+1	0
	CHEMISTRY (PART-B)	73 to 78	+1	0
	MATHEMATICS (PART-C)	79 to 84	+1	0
	BIOLOGY (PART-D)	85 to 90	+1	0
SECTION – IV	PHYSICS (PART-A)	91 to 94	+4	–1
	CHEMISTRY (PART-B)	95 to 98	+4	–1
	MATHEMATICS (PART-C)	99 to 102	+4	–1
	BIOLOGY (PART-D)	103 to 110	+4	–1

- 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.
- Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
- Before attempting paper write your OMR Answer Sheet No., Registration Number, Name and Test Centre in the space provided below.

**Note:** Please check this Question Paper contains all 110 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 : \_\_\_\_\_

## Recommended Time: 60 Minutes for Section – I

### Section – I

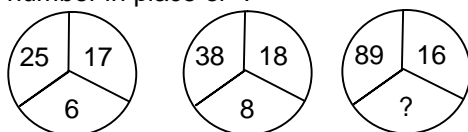
### APTITUDE TEST

*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.*

1. Find the next term in the series.  
240, 332, 118, 168, 57, 86, ? ,45  
(A) 28.5 (B) 26.5 (C) 27 (D) 34.5
2. The average of 20 numbers is zero. Of them, at the most, how many may be greater than zero?  
(A) 0 (B) 1 (C) 10 (D) 19
3. 4 Men and 6 women after doing work in 5 days get Rs. 1600. 3 Men and 7 women after doing same work in 6 days get Rs. 1740. Then in how many days 7 Men and 6 Women can do the work to get 3760 Rs. ?  
(A) 8 (B) 6 (C) 9 (D) 10
4. Two pipes can fill a tank in 12 minutes & 15 minutes respectively. If first pipe is changed with a pipe having twice of its radius while second with a pipe having half of second's radius. Now the tank will be filled in :  
(A)  $2\frac{6}{7}$  minutes (B) 4 minutes (C) 2 minutes (D)  $3\frac{1}{3}$  minutes
5. Together A & B can do a work in 12 days where together B & C can do work in 16 days. The contractor allowed A to work for 5 days, then allowed B to work for 7 days, After this C completed the work in 13 days. They in how many days B can completes the work standoff.  
(A) 48 (B) 24 (C) 16 (D) 12
6. A 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.  
21, 25, 33, 49, 81,.....  
(A) 145 (B) 129 (C) 113 (D) 97

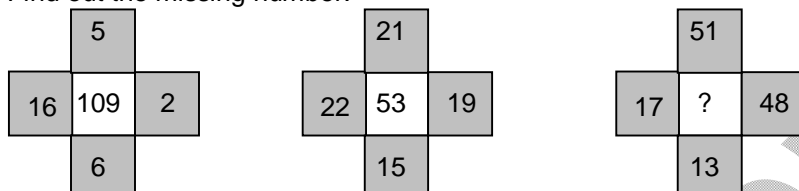
*Space for Rough Work*

7. Numbers in the following questions have been arranged using a particular method. Find the number in place of '?'



- (A) 13 (B) 15 (C) 17 (D) 19

8. Find out the missing number.



- (A) 25 (B) 129 (C) 7 (D) 49

9. Choose the alternative which is closely resembles the mirror image of the given combination.

BR4AQ16HI

(1) IH61QA4RB

(2) IH61QA4RB

(3) IH61QA4RB

(4) IH91QA4RB

- (A) 1 (B) 2 (C) 3 (D) 4

10. In a certain code language the word **ATMOSPHERE** is written as **BSLPROGFQF**. How will be word **NEIGHBOURS** be written in that language ?

- (A) MFJHGAPVQR (B) MFJFGAPVQR (C) ODJFIAPTSR (D) ODJEIAPTSR

11. In a certain code language, the word **AMASSED** is written as **JUHYXIG**. How will the word **KNOBBLY** be written in that language ?

- (A) TVVHGPB (B) SUTGFOA (C) TTUVPQC (D) TVUHHOB

12. In a certain code language **IMPLICIT** is written as **LRWUTPXK**. How will the word **NEWSCAST** be written in that language ?

- (A) LSAZAITMI (B) LSAAZITIM (C) LSASIZTIM (D) None of these

13. Figures given in question follows a set pattern. Determine the pattern and find the correct answer: 5, 14, 43, 128, ?

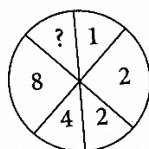
- (A) 382 (B) 384 (C) 385 (D) 386

14. Figures given in question follows a set pattern. Determine the pattern and find the correct answer: 7, 11, 15, 23, 31, 39, ?

- (A) 45 (B) 50 (C) 52 (D) 55

Space for Rough Work

15. Figures given in question follows a set pattern. Determine the pattern and find the correct answer:  
5, 8, 13, 21, ?, 55, 89  
(A) 32 (B) 34 (C) 36 (D) 38
16. In a certain code GARNISH is written as RAGHSIN. How will GENIOUS be written in that code?  
(A) ENGOIUS (B) NEGIOUS (C) NGEIOISU (D) GENOISU
17. In a certain code RESPONSES is written as ESRONPESS, then how can SIGNATURE be written in that code?  
(A) ERUTANGIS (B) GISTANERU (C) IGSATNREU (D) ISNGTARUE
18. If MONKO is coded as 57637, then how KLJMN be coded in the same code?  
(A) 32456 (B) 34256 (C) 35156 (D) 32546
19. Raja moves from his house and walks 10 feet towards east, turns right and walks 3 feet. Again he turns right and walks 14 feet. How far is he from his house?  
(A) 4 feet (B) 5 feet (C) 24 feet (D) 42 feet
20. My friend and I started simultaneously towards each other from two places 100m apart. After walking 30m, my friend turns left and goes 10m, then he turns right and goes 20 m and then turns right again and comes back to the road on which he had started walking. If we walk with the same speed, what is the distance between us at this point of time?  
(A) 50 m (B) 20 m (C) 30 m (D) 40 m
21. A, B and C have to type 506 pages to finish an assignment. A can type a page in 12 minutes, B in 15 minutes and C in 24 minutes. If they divide the task into three parts so that all three of them spend an equal amount of time in typing, what is the number of pages, that B should type?  
(A) 172 (B) 176 (C) 154 (D) 168
22. A is thrice as efficient as B and takes 10 days less than B takes to do the same work. In how many days, B alone can finish the whole work?  
(A) 15 (B) 10 (C) 9 (D) 8
23. Select from the answer choices given against each question an appropriate number to replace the question mark.



- (A) 10 (B) 15 (C) 32 (D) 12

*Space for Rough Work*

24. Select from the answer choices given against each question an appropriate number to replace the question mark.

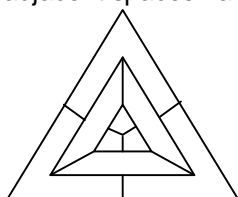


- (A) 44 (B) 55 (C) 80 (D) 88

25. Ram starts working on a job and works on it for 12 days and completes 40% of the work. To help him complete the work, he employs Ravi and together they work for another 12 days and the work gets completed. How much more efficient is Ram than Ravi?

- (A) 50% (B) 200% (C) 60% (D) 100%

26. Consider the adjoining diagram :  
What is the minimum number of colours required to fill the spaces in the diagram without any two adjacent spaces having the same colour?



- (A) 6 (B) 5 (C) 4 (D) 3

27. P3C, R5F, T8I, V12L, ?

- (A) X16'O' (B) Y17'O' (C) X17M (D) X17'O'

28. \_st\_tr\_srs\_r\_srst\_

- (A) ttssrr (B) tsrtsr (C) strtrs (D) tssttr

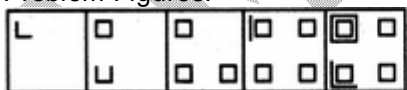
29. Choose the alternative which is closely resembles the water-image of the given combination.

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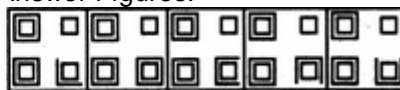
- (1) 04b12B1 (2) 04d12B1  
(3) 04b12B1 (4) 04b12B1

- (A) 1 (B) 2 (C) 3 (D) 4

30. Problem Figures:



- Answer Figures:



- (A) 1 (B) 2 (C) 3 (D) 5

Space for Rough Work

## Recommended Time: 45 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.*

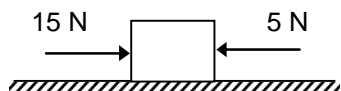
31. A particle covers equal distances in equal interval of time. It is moving with  
(A) uniform Speed (B) Non-uniform Speed  
(C) The particle must be at rest (D) all of these
32. In 10hrs, a car is moving with speed of  $60 \text{ kmh}^{-1}$ . Then it travels a distance of  
(A) 6 km (B) 600 km  
(C) 10 km (D) 7 km
33. A body is said to be at rest if  
(A) Its position with respect to the observer remain same  
(B) Its position with respect to the observer keep on changing  
(C) Both A and B  
(D) Neither A nor B
34. Displacement is always  
(A) Shortest path length between two points (B) Total path length between two points  
(C) Product of length and time (D) None of the above
35. The slope of velocity-time graph gives  
(A) Distance travelled (B) acceleration  
(C) Force acting (D) (A), (B) & (C) all are correct
36. The gravitational force between two objects does not depend on  
(A) Sum of the masses (B) Product of the masses  
(C) Gravitational constant (D) Distance between the masses

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*Space for Rough Work*

37. The momentum of a system is conserved  
(A) Always  
(B) Never  
(C) In the absence of an external force on the system  
(D) None of the above

38. Calculate the resultant force in the given figure.



- (A) 5 N toward left  
(B) 15 N towards right  
(C) 10 N towards right  
(D) 10 N towards left
39. What is the correct relation between force ( $F$ ), changing momentum ( $P_2 - P_1$ ) and time of action ( $t$ )  
(A)  $F = (P_2 - P_1)/t$   
(B)  $F/t = P_1$   
(C)  $F = (P_2)t$   
(D)  $F/t = P_2$

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*Space for Rough Work*

## 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. To separate the various coloured pigments present in a substance which method is used ?  
(A) sublimation (B) Chromatography  
(C) Centrifugation (D) Evaporation
41. Which of the following is not a colloid?  
(A) Smoke (B) Haemoglobin  
(C) Latex (D) Air
42. Which subatomic particle is not present in an ordinary hydrogen atom?  
(A) Proton (B) Neutron  
(C) Electron (D) None of these
43. Number of valence electrons in  $\text{Cl}^-$  ion are :  
(A) 6 (B) 8  
(C) 7 (D) 18
44. Identify the incorrect statement below :  
(A) Goldstein discovered neutrons in his experiments on canal rays.  
(B) The millikan oil drop experiment was able to determine the charge of an electron.  
(C) Rutherford's gold foil experiment established that atoms are mostly empty.  
(D) Chadwick discovered the neutron.
45. A metal sulphate has the formula  $\text{MSO}_4$ . A chloride of the same metal will have the formula  
(A)  $\text{M}_2\text{Cl}_3$  (B)  $\text{M}_2\text{Cl}$   
(C)  $\text{MCl}_2$  (D)  $\text{MCl}$
46. A quantity of Aluminium has a mass of 54g. What is the mass of same number of magnesium atoms?  
(A) 12.1 g (B) 24.3 g  
(C) 48.6 g (D) 97.2 g
47. The nature of positive rays depends on?  
(A) The nature of electrode (B) The nature of discharge tube  
(C) the nature of residual gas (D) All of the above
48. Which of the following mixture can be separated by separating funnel?  
(A) Water and Kerosene (B) Mercury and Water  
(C) Chloroform and Water (D) All of these

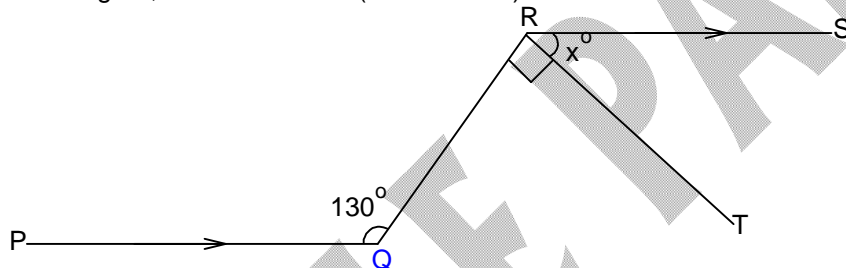
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# MATHEMATICS – (PART – C)

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.

49. If the coordinates of three consecutive vertices of a parallelogram are  $(1,3)$ ,  $(-1,2)$  and  $(2, 5)$  then coordinates of the fourth vertex are  
 (A)  $(6, 4)$  (B)  $(4, 6)$  (C)  $(-2, 0)$  (D) None of these
50. If the sides of a triangle are 5 cm, 12 cm and 13 cm respectively then length of the shortest altitude is  
 (A) 5 cm (B)  $\frac{60}{13}$  cm (C) 12 cm (D) 8.5 cm
51. Find the unit digit of the product  $91 \times 92 \times 93 \times \dots \times 99$   
 (A) 1 (B) 6 (C) 9 (D) 0
52. In the figure, the value of  $x$  is ( $\angle QRT = 90^\circ$ )



- (A)  $40^\circ$  (B)  $50^\circ$  (C)  $70^\circ$  (D)  $100^\circ$
53. The sum of a two digit number and the number formed by interchanging the digit is 132. If 12 is added to the number, the new number becomes 5 times the sum of the digits. The number is  
 (A) 58 (B) 48 (C) 72 (D) None of these
54. Triangle formed by the lines  $y = 0$ ,  $4x + 3y = 12$  and  $4x - 3y = -12$  is :  
 (A) an equilateral triangle (B) A scalene triangle  
 (C) Triangle not possible (D) An isosceles triangle
55. The perimeter of the triangle formed by the points  $(0, 0)$ ,  $(1, 0)$  and  $(0, 1)$  is  
 (A)  $1 \pm \sqrt{2}$  (B)  $\sqrt{2} + 1$  (C) 3 (D)  $2 + \sqrt{2}$
56. If points  $(1, 2)$ ,  $(-5, 6)$  and  $(a, -2)$  are collinear, then  $a =$   
 (A)  $-3$  (B) 7 (C) 2 (D)  $-2$
57. If  $x + \frac{1}{x} = -2$ , then find the value of  $x^{2n+1} + \frac{1}{x^{2n+1}}$  where  $n$  is a positive integer  
 (A) 2 (B) 0 (C)  $-2$  (D) None of these

Space for Rough Work

## 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. Acne is caused by  
(A) *Escherichia* (B) *Giardia*  
(C) *Staphylococci* (D) *Shigella*
59. What are the identifying features of meristematic tissues?  
(A) thick cellulose wall, small vacuoles, dense cytoplasm, small nuclei  
(B) thin cellulose wall, almost no vacuoles, dense cytoplasm, prominent nuclei  
(C) thin cellulose wall, no vacuoles, sparse cytoplasm, prominent nuclei  
(D) thick cellulose, large vacuoles, sparse cytoplasm, small nuclei
60. Which of the following is a dead tissue?  
(A) Sieve tube (B) Companion cells  
(C) Parenchyma (D) Fibres
61. The tissues that prevent friction between bones are  
(A) Cartilage (B) Blood tissue  
(C) Epithelial tissue (D) Muscle tissue
62. Crossing over is:  
(A) important in genetic recombination  
(B) a process that occurs during mitosis  
(C) what makes a cell become cancerous  
(D) an important mechanism of chromosome repair
63. Where do you find 'Nodes of Ranvier'?  
(A) Muscular tissue (B) Connective tissue  
(C) Epithelial tissue (D) Nervous tissue
64. Cork cells are airtight due to deposition of:  
(A) cutin (B) suberin  
(C) lignin (D) all of these
65. Examples of congenital diseases are  
(A) Albinism (B) cleft lip  
(C) Haemophilia (D) All the above
66. Which of the following does help in repair of tissue and fills up the space inside the organ?  
(A) Tendon (B) Adipose muscle  
(C) Areolar (D) Cartilage

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**Space for Rough Work**

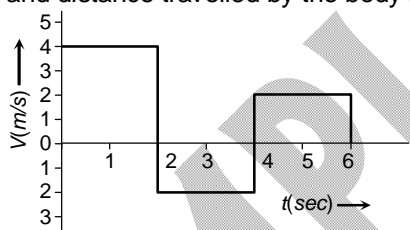
## Recommended Time: 30 Minutes for Section – III

### Section – III

### PHYSICS – (PART – A)

*This part contains 6 Multiple Choice Questions number 67 to 72. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

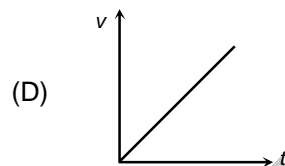
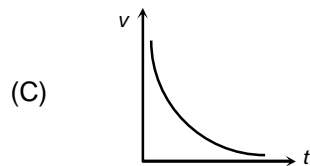
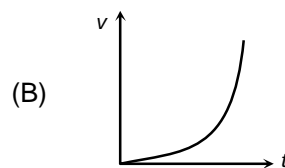
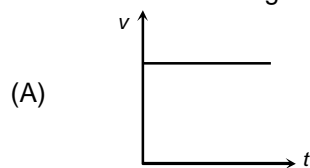
67. A body goes from A to B with velocity of 80 m/s and comes back from B to A with a velocity of 90 m/s. The average velocity of the body during the whole journey is  
 (A) zero (B) 75 m/s  
 (C) 25 m/s (D) 85 m/s
68. A particle moves along a semicircle of radius 10m in 5sec., the average velocity of particle is  
 (A)  $2\pi$  m / s (B)  $4\pi$  m / s  
 (C) 2 m / s (D) 4 m / s
69. A body goes 3 km north and 4 km east. What will be the displacement from initial point ?  
 (A) zero (B) 2 km  
 (C) 5 km (D) 20 km
70. The velocity-time graph of a body moving in a straight line is shown in the figure. The displacement and distance travelled by the body in 6 sec are respectively



- (A) 16 m, 16 m (B) 16 m, 38 m  
 (C) 8 m, 16 m (D) 28 m, 18 m

**Space for Rough Work**

71. Which of the following velocity-time graphs represent zero acceleration?



72. The slope of distance-time graph gives

(A) speed

(B) Change in acceleration

(C) displacement

(D) (A), (B) & (C) all are correct

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*Space for Rough Work*

## CHEMISTRY – (PART – B)

*This part contains 6 Multiple Choice Questions number 73 to 78. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

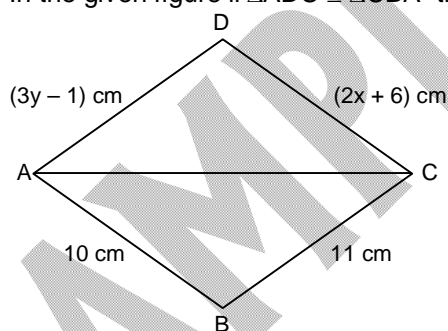
73. Neutrons don't have  
 (A) mass (B) charge  
 (C) both (D) none
74. Consider the following substances  
 (a) graphite (b) sodium chloride (c) muddy water  
 Which of the above substance can be consider as pure substance?  
 (A) (a) & (b) (B) (a) & (c)  
 (C) only (b) (D) only (a)
75. Some solutions are given below.  
 I. Milk mix with water II. Water containing mud  
 III. Blood IV. Starch solution  
 Which of these will show Tyndal affect?  
 (A) only (I) (B) (II) and (IV)  
 (C) (I) and (IV) (D) All of these
76. Identify the Isotones among the following  
 (A)  ${}_1H^1$  &  ${}_1H^2$  (B)  ${}_1H^2$  &  ${}_2He^4$   
 (C)  ${}_6C^{13}$  &  ${}_7N^{14}$  (D)  ${}_{18}Ar^{40}$  &  ${}_{20}Ca^{40}$
77. Which of the following is a binary mixture?  
 (A) Air (B) Soft drink  
 (C) Steel (D) Saline solutions
78. Milk is a type of  
 (A) Gel (B) Sol  
 (C) Emulsion (D) Suspension

*Space for Rough Work*

## MATHEMATICS – (PART – C)

*This part contains 6 Multiple Choice Questions number 79 to 84. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

79. If the sides of a triangle are 8 cm, 5 cm and 3 cm less than its semi perimeter then perimeter of triangle is  
 (A) 16 cm (B) 24 cm (C) 32 cm (D) 48 cm
80. In a group of goats and hens, the total number of legs is 12 more than twice the total number of heads. The number of goats  
 (A) 8 (B) 6 (C) 2 (D) None of these
81. If  $5a + \frac{1}{3a} = 5$ , then the value of  $9a^2 + \frac{1}{25a^2}$  is  
 (A)  $\frac{51}{5}$  (B)  $\frac{29}{5}$  (C)  $\frac{52}{5}$  (D)  $\frac{39}{5}$
82. Cost of 5 pens and 7 pencils is Rs. 103 and cost of 4 pens and 9 pencils is Rs. 96. Find the total cost of one pen and one pencil  
 (A) 19 (B) 20 (C) 21 (D) 22
83. If  $(x-3)^2 + (y-4)^2 + (z-5)^2 = 0$ , then the value of  $\frac{x^2}{9} + \frac{y^2}{16} + \frac{z^2}{25}$  is  
 (A) 1 (B) 2 (C) 3 (D) 5
84. In the given figure if  $\triangle ADC \cong \triangle CBA$  then  $x + y$  is equal to



- (A) 6 (B) 8 (C)  $\frac{37}{6}$  (D) 5

*Space for Rough Work*

## BIOLOGY – (PART – D)

*This part contains 6 Multiple Choice Questions number 85 to 90. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

85. Which of the following organelles are covered by single membrane?  
 (A) Ribosome and lysosome (B) Lysosome and nucleus  
 (C) Ribosome and vacuole (D) Lysosome and endoplasmic reticulum
86. Thylakoid is lined by a membrane called:  
 (A) jacket (B) fret membrane  
 (C) tonoplast (D) cell membrane
87. Match the following
- |                     |                            |
|---------------------|----------------------------|
| a. Inclusion bodies | (i) Eukaryotic             |
| b. Plasmid          | (ii) Protein manufacturer  |
| c. Ribosome         | (iii) Nitrogen fixing gene |
| d. Golgi complex    | (iv) Nutrient reservoir    |
- |     | a     | b     | c    | d    |
|-----|-------|-------|------|------|
| (A) | (iii) | (ii)  | (i)  | (iv) |
| (B) | (iv)  | (iii) | (i)  | (ii) |
| (C) | (iii) | (i)   | (iv) | (ii) |
| (D) | (iv)  | (iii) | (ii) | (i)  |
88. Making anti-viral drugs is more difficult than making anti-bacterial medicines because  
 (A) viruses have more complicated metabolic pathways  
 (B) viruses are on the border line of living and non-living  
 (C) viruses have few biochemical mechanisms of their own  
 (D) viruses have a protein coat
89. Pellagra is prevented by vitamin  
 (A) B1 (B) B3  
 (C) B12 (D) E
90. DPT vaccine is given for  
 (A) Tetanus, polio, plague (B) Diptheria, whooping cough and leprosy  
 (C) Diptheria, pneumonia, tetanus (D) Diptheria, whooping cough, tetanus

**Space for Rough Work**

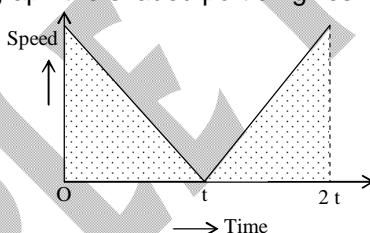
# Recommended Time: 45 Minutes for Section – IV

## Section – IV

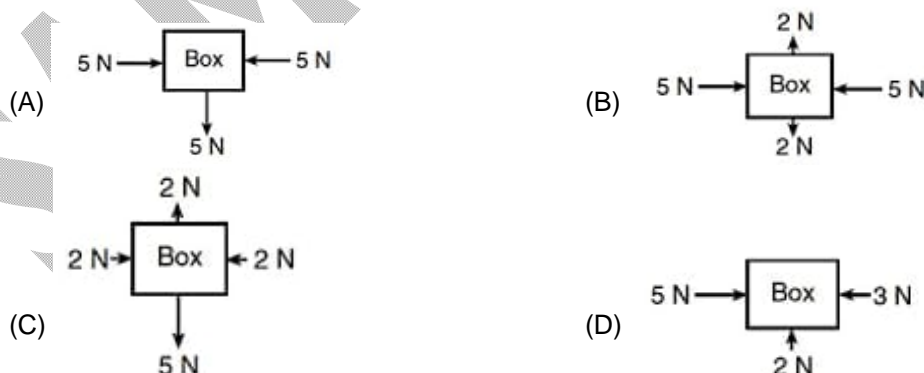
### PHYSICS – (PART – A)

This part contains 4 Multiple Choice Questions number 91 to 94. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

91. A particle is moving in a circle of diameter 5 cm. The distance covered when it completes 3 revolutions is  
 (A)  $10\pi$  cm (B)  $15\pi$  cm  
 (C)  $5\pi$  cm (D)  $30\pi$  cm
92. A ball is thrown straight up. The magnitude of acceleration at the top point on its path is  
 (A)  $g$  (B)  $\frac{g}{2}$   
 (C) Zero (D)  $\frac{2g}{3}$
93. In the following speed-time graph the shaded portion gives



- (A) distance travelled (B) average speed  
 (C) average velocity (D) displacement travelled
94. Which diagram represents a box in equilibrium?



Space for Rough Work



## CHEMISTRY – (PART – B)

*This part contains 4 Multiple Choice Questions number 95 to 98. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

95. The poorest conductor of heat among the metals is  
(A) Lead (B) Copper  
(C) Arsenic (D) None of these
96. Purity of a solid substance can be checked by its  
(A) boiling point (B) melting point  
(C) solubility in water (D) solubility in alcohol
97. Naphthalene balls disappear with time without leaving behind any residue. This is because of the following phenomenon  
(A) evaporation (B) sublimation  
(C) condensation (D) vaporization
98. The correct increasing order of the boiling points of liquid oxygen, liquid argon and liquid nitrogen present in liquid air as:  
(A) Nitrogen, oxygen, argon (B) Nitrogen, argon, oxygen  
(C) argon, oxygen, nitrogen (D) oxygen, argon, nitrogen

*Space for Rough Work*

**MATHEMATICS – (PART – C)**

*This part contains 4 Multiple Choice Questions number 99 to 102. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

99. The area enclosed by the lines  $x = 0$ ,  $x = 2$ ,  $y = x$  and  $y = 3$  is:  
(A) 2 sq. unit (B) 4 sq. unit (C) 8 sq. unit (D) 16 sq. unit
100. The value of  $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots \text{to } \infty}}}$   
(A) 3 (B) 2 (C) 1 (D)  $\pm 3$
101. Find the coefficient of  $x^2$  in  $(3x^2 - 5)(4 + 4x^2)$ .  
(A) 12 (B) 5 (C)  $-8$  (D) 8
102. A diagonal of a rectangle is inclined to one side of the rectangle at  $25^\circ$ . The acute angle between the diagonals is  
(A)  $55^\circ$  (B)  $40^\circ$  (C)  $25^\circ$  (D)  $50^\circ$

*Space for Rough Work*

## BIOLOGY – (PART – D)

*This part contains 8 Multiple Choice Questions number 103 to 110. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

103. From the following statements select the combination of incorrect statements.  
 (i) RER is found abundantly in protein synthesizing cells.  
 (ii) Chromoplasts are involved in the synthesis and storage of carbohydrates, oil and protein granules.  
 (iii) Mitochondria are found in prokaryotic cells and mature red blood cells of mammals.  
 (A) i, ii are incorrect (B) ii, iii are incorrect  
 (C) i, iii are incorrect (D) All are incorrect statements
104. Aerenchyma is helpful to plants by  
 (A) Providing buoyancy in hydrophytes (B) Promoting photosynthesis  
 (C) Giving mechanical strength to plants (D) Giving flexibility to plants
105. The difference between blood and lymph is:  
 (A) blood has WBC while lymph has RBC  
 (B) blood has dissolved salt while lymph has no cells  
 (C) blood has RBC and WBC while lymph has no cells  
 (D) blood has RBC and WBC while lymph has only WBC
106. In osmosis:  
 (A) solute moves through Selectively permeable membrane  
 (B) solvent moves through selectively permeable membrane  
 (C) Both solute and solvent move through selectively permeable membrane  
 (D) solution moves through selectively permeable membrane
107. Select the correct statements.  
 a. Ribosomes are covered by a double-layered membrane  
 b. Ribosomes are composed of RNA and proteins  
 c. Xanthophyll is present in chromoplast  
 d. Elaioplasts store protein  
 (A) a and d (B) b and c  
 (C) c and d (D) b and d

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**Space for Rough Work**

108. Match the following:

- |                   |                  |
|-------------------|------------------|
| a. Adipose tissue | (i) Chondrocytes |
| b. Bone           | (ii) Blood       |
| c. Cartilage      | (iii) Fat cell   |
| d. Platelets      | (iv) Osteocyte   |

- |     | a   | b  | c   | d   |
|-----|-----|----|-----|-----|
| (A) | iii | iv | i   | ii  |
| (B) | iv  | i  | ii  | iii |
| (C) | iii | i  | iv  | ii  |
| (D) | iv  | ii | iii | i   |

109. Which of these is mis-matched?

- (A) Amyloplasts – Store protein granules
- (B) Elaioplasts – Store oils or fats
- (C) Chloroplasts – Contain chlorophyll pigments
- (D) Chromoplasts – Contain coloured pigments other than chlorophyll

110. Identify the wrong statement:

- a. A vaccine is a biological preparation that contains active or weakened microbe.
  - b. Polio is an infectious disease caused by bacteria.
  - c. Cancer is caused due to slow division of cells
  - d. Lifestyle habits can cause disease like obesity.
- |            |             |
|------------|-------------|
| (A) a only | (B) b and c |
| (C) c only | (D) a and b |

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*Space for Rough Work*

# FIITJEE Admission Test

for students presently in **Class 9 (Paper 1)**

## SAMPLE PAPER ANSWER KEY

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