

FIITJEE Admission Test

for students presently in **Class 10 (Paper 1)**

Time: 3 Hours (9:00 am – 12:00 pm)

CODE: 1011-1

Maximum Marks: 243

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	
			Correct answer	Wrong answer
SECTION – I	APTITUDE TEST	1 to 30	+3	0
SECTION – II	PHYSICS (PART-A)	31 to 42	+2	0
	CHEMISTRY (PART-B)	43 to 54	+2	0
	MATHEMATICS (PART-C)	55 to 66	+2	0
SECTION – III	PHYSICS (PART-A)	67 to 75	+3	0
	CHEMISTRY (PART-B)	76 to 84	+3	0
	MATHEMATICS (PART-C)	85 to 93	+3	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 below.

Note: Please check this Question Paper contains all **93** 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 : _____

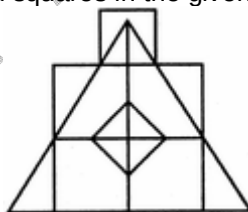
Recommended Time: 60 Minutes for Section – I

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.

- In the time a fox do 5 jumps, a dog do 3 jumps. If the distance covered in a jump by a dog is 3 times that of fox. Find the ratio of the speed of dog to that of fox.
(A) 5 : 8 (B) 3 : 5 (C) 5 : 13 (D) 13 : 15
- Replace the question mark (?) in the following number series with suitable option.
3, 3, 4.5, 9, 22.5, ?
(A) 27.3 (B) 24 (C) 55 (D) 67.5
- _st_tr_srs_r_srst_
(A) ttssrr (B) tsrtsr (C) strtrs (D) tstttr
- It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?
(A) Monday (B) Friday (C) Sunday (D) Tuesday
- The calendar for the year 2007 will be the same for the year
(A) 2014 (B) 2016 (C) 2017 (D) 2018
- A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 p.m. on the following day?
(A) 48 min. past 12. (B) 46 min. past 12. (C) 45 min. past 12. (D) 47 min. past 12.
- Count the number of triangles and squares in the given figure.



- (A) 21 triangles, 7 squares (B) 18 triangles, 8 squares
(C) 22 triangles, 8 squares (D) 22 triangles, 7 squares
- In a certain code language, 519 means SWEET AND HOT 753 means MANGO IS SWEET 147 means MILK IS HOT. Which digit stands for MILK?
(A) 7 (B) 1 (C) 4 (D) 9

Space for Rough Work

Directions : (Q9 to Q10)

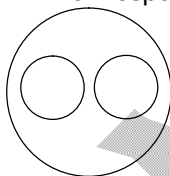
From a group of 6 men and 4 women a committee of 4 persons is to be formed.

9. In how many different ways can it be done so that the committee has atleast one woman?
 (A) 210 (B) 225 (C) 195 (D) 185
10. In How many different ways can it be done so that the committee has at least 2 men?
 (A) 210 (B) 225 (C) 195 (D) 185

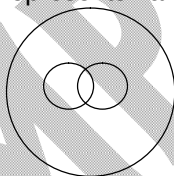
Directions: (Q11 to Q13) Study the following information carefully and answer the questions given below.

P,Q,R,S,T and M are six students of a school, one each studies in class I to VI each of them has a favourite colour from red, black, blue, yellow, pink and green, not necessarily in the same order. Q likes black and does not study in class IV or V. The one who studies in class IV does not like green. P studies in class II. M likes blue and does not study in class IV. The one who likes yellow studies in class VI. S likes pink and studies in class I. R does not study in class VI.

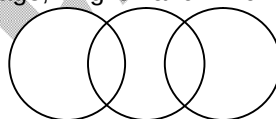
11. In which class does R study?
 (A) V (B) III (C) IV (D) Data inadequate
12. Which colour does R like ?
 (A) Black (B) Yellow (C) Green (D) None of these
13. Which of the following combinations is correct?
 (A) P-II-Yellow (B) Q-III-Green (C) S-I-Black (D) None of these
14. Prateek travelled from a point A to B, a distance of 12 km. He turned right and travelled 8 km and reached point C. From that point took right turn and travelled 6 km, and reached point D. How far is he away from the starting point?
 (A) 10 km (B) 12 km (C) 13 km (D) 14 km
15. Which response represents Language, English and Hindi?



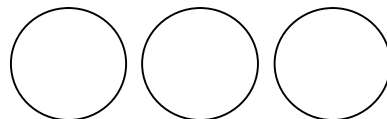
(A)



(B)



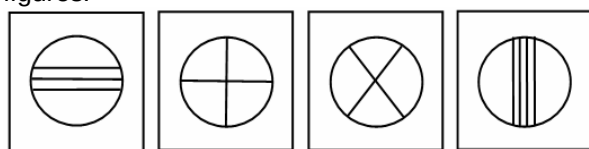
(C)



(D)

Space for Rough Work

16. In each of the following questions select the one figure which is different from the other three figures.



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

17. When the clock shows 20 minutes past 11 O'clock, what is the angle between the two hands of the clock?

- (A) 110° (B) 120° (C) 130° (D) 140°

18. A sum invested at 5% simple interest per annum grows to Rs. 504 in 4 years. The same amount at 10% simple interest per annum in $2\frac{1}{2}$ years will grow to :

- (A) Rs. 420 (B) Rs. 452 (C) Rs. 525 (D) Rs. 550

Directions:(Q19 to Q20) Read the following information carefully and answer the questions give below.

An unusual signpost indicates 8 cities with their distance from the signpost. These cities are AGRA, JAIPUR, AJMER, DELHI, PANIPAT, ROPAR, AMBALA and BOMBAY. Each alphabet in the name of cities is assign a numeric value, Total value of the letters in each city gives the corresponding distance. Signpost indicates distance 186 km for AMBALA, 168 km for DELHI, 231 km for JAIPUR and 198 km for ROPAR while other distances are missing.

19. What is the distance indicated for AJMER on the signpost?
(A) 205 km (B) 177 km (C) 138 km (D) None
20. For which of the following cities corresponding distance is maximum?
(A) BOMBAY (B) PANIPAT (C) AGRA (D) JAIPUR
21. What is the unit digit in $(3^{65} \times 6^{59} \times 7^{71})$?
(A) 6 (B) 4 (C) 2 (D) 1
22. When 17^{200} is divided by 18, find the remainder.
(A) 1 (B) 4 (C) 5 (D) 3

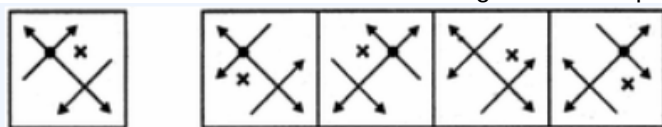
Space for Rough Work

Directions (Q23 to Q24): In each of the questions below are given four statements followed by four conclusions numbered I, II, III & IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

23. **Statements:**
 Some trains are cars.
 All cars are branches.
 All branches are nets.
 Some nets are dresses.
Conclusions:
 I. Some dresses are cars.
 II. Some nets are trains.
 III. Some branches are trains.
 IV. Some dresses are trains.
 (A) Only I and III follow (B) Only II and III follow
 (C) Only I and IV follow (D) Only II, III and IV follow
24. **Statements:**
 Some pencils are kites.
 Some kites are desks.
 All desks are jungles.
 All jungles are mountains.
Conclusions:
 I. Some mountains are pencils.
 II. Some jungles are pencils.
 III. Some mountains are desks.
 IV. Some jungles are kites.
 (A) Only I and III follow (B) Only I, II and III follow
 (C) Only III and IV follow (D) Only II, III and IV follow
25. If male and female students of section B in DPS and DAV are in ratio 3 : 2 and 4 : 3 respectively, then male students of section B are how much percent more than female students of section B considering both the schools (approx).
 (A) 50% (B) 25% (C) 36% (D) 40%
26. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is
 (A) 2% (B) 4.5% (C) 13.5% (D) 15%

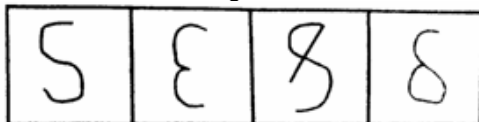
Space for Rough Work

27. Choose that alternative which contains figure X as it's part.



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

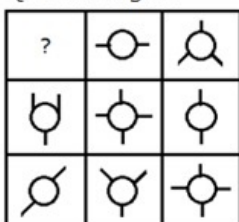
28. Find odd one out figure



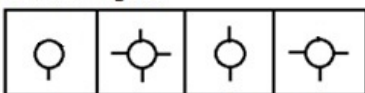
- (A) A (B) B (C) C (D) D

29. Select a suitable figure from the four alternatives given below that would complete the figure matrix

Question figure-



Answer figure-



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

30. Find out the missing term of the series.

$$\frac{2}{3}, \frac{4}{7}, ?, \frac{11}{21}, \frac{16}{31}$$

- (A) $\frac{5}{9}$ (B) $\frac{6}{11}$ (C) $\frac{7}{13}$ (D) $\frac{9}{17}$

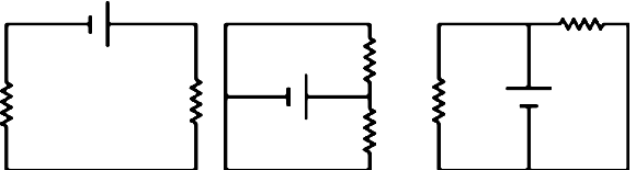
Space for Rough Work

Recommended Time: 60 Minutes for Section – II

Section – II

PHYSICS – (PART – A)

This part contains 12 Multiple Choice Questions number 31 to 42. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

31. The unit of electrical conductivity is
 (A) ohm-m^{-2} (B) $\text{ohm} \times \text{m}$
 (C) $\text{ohm}^{-1}\text{-m}^{-1}$ (D) None of these
32. A cylindrical wire of radius r and another cylindrical wire of radius $2r$, both made up of same material and length are connected in series to each other. This combination is connected across a battery. Then the ratio of the heat produced per second in the two wires is
 (A) 4 (B) 2
 (C) 0.50 (D) 0.25
33. In the figure, the resistors are in series or parallel. Select the right trend:
- 
- (A) series, series, series (B) series, series, parallel
 (C) series, parallel, parallel (D) none
34. Two resistors A and B have resistances R_A and R_B respectively with $R_A < R_B$. The resistivities of their materials are ρ_A and ρ_B .
 (A) $\rho_A > \rho_B$
 (B) $\rho_A = \rho_B$
 (C) $\rho_A < \rho_B$
 (D) The information is not sufficient to find the relation between ρ_A and ρ_B

Space for Rough Work

35. A moving charge produces
(A) electric field only (B) magnetic field only
(C) both of them (D) none of them
36. A charged particle moves in a circular path in a uniform magnetic field. If its speed is reduced, then its time period will
(A) increase (B) decrease
(C) remains same (D) None of these
37. Unit of magnetic field is
(A) Ampere (B) Tesla
(C) Volt (D) None of these
38. Identify the correct statement about the magnetic field lines.
(A) These start from the N-pole and terminate on the S-pole
(B) These lines always form closed loops
(C) Both (A) and (B) are correct
(D) Both (A) and (B) are incorrect
39. The index of refraction of diamond is 2.0, velocity of light in diamond in cm/second is approximately
(A) 6×10^{10} (B) 3.0×10^{10}
(C) 2×10^{10} (D) 1.5×10^{10}
40. For a normal eye, the least distance of distinct vision is
(A) 0.25 m (B) 0.50 m
(C) 25 m (D) Infinite
41. The current is flowing in south direction along a power line. The direction of magnetic field above the power line (neglecting earth's field) is
(A) South (B) East
(C) North (D) West
42. Kilowatt hour is unit of
(A) force (B) power
(C) energy (D) current

Space for Rough Work

CHEMISTRY – (PART – B)

This part contains 12 Multiple Choice Questions number 43 to 54. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

43. What happens when dilute hydrochloric acid is added to iron fillings? Find the correct answer.
 (A) Hydrogen gas and Iron chloride are formed (B) Chlorine gas and iron chloride are formed.
 (C) No reaction takes place. (D) Iron salts and water are produced.
44. Which of the following is a decomposition reaction?
 (A) $2\text{HgO} \xrightarrow{\text{Heat}} 2\text{Hg} + \text{O}_2$ (B) $\text{CaCO}_3 \xrightarrow{\text{heat}} \text{CaO} + \text{CO}_2$
 (C) $2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}} \text{H}_2 + \text{O}_2$ (D) All of these
45. When the gases sulphur dioxide and hydrogen sulphide mix in the presence of water, the reaction is
 $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$. Here hydrogen sulphide is acting as
 (A) an oxidising agent (B) a reducing agent
 (C) a dehydrating agent (D) a catalyst
46. Which of the following properties generally decrease along a period?
 (A) Atomic size (B) Non-metallic character
 (C) Metallic character (D) Both (A) and (C)
47. The metal that reacts with cold water is-
 (A) Mercury (B) Sodium
 (C) Zinc (D) Tungsten
48. The correct order of increasing chemical reactivity of following metals is-
 (A) $\text{Zn} < \text{Fe} < \text{Mg} < \text{K}$ (B) $\text{Fe} < \text{Mg} < \text{Zn} < \text{K}$
 (C) $\text{Fe} < \text{Mg} < \text{K} < \text{Zn}$ (D) $\text{Fe} < \text{Zn} < \text{Mg} < \text{K}$
49. When magnesium oxide (MgO) reacts with water to form magnesium hydroxide $[\text{Mg}(\text{OH})_2]$, a base it turns _____ litmus to _____.
 (A) Blue, Red (B) Blue, Colourless
 (C) Red, Blue (D) Colourless, Blue

Space for Rough Work

50. Acid contained in the sting of an ant is _____.
(A) Acetic acid (B) Formic acid
(C) lactic acid (D) Ascorbic acid
51. Which of the given elements A, B, C, D and E with atomic number 2, 3, 7, 10 and 30 respectively belong to the same period?
(A) A, B, C (B) B, C, D
(C) A, D, E (D) B, D, E
52. The element which has least tendency to lose electron is
(A) H (B) Li
(C) He (D) Ne
53. Which of the following is liquid at ordinary temperature?
(A) Germanium (B) Gallium
(C) Gold (D) Galena
54. Sodium is obtained by the electrolysis of
(A) an aqueous solution of sodium chloride (B) an aqueous solution of sodium hydroxide
(C) fused sodium chloride (D) aq. sodium sulphate

Space for Rough Work

MATHEMATICS – (PART – C)

This part contains **12 Multiple Choice Questions** number **55 to 66**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

55. The sum of the roots of the equation, $\frac{1}{x+a} + \frac{1}{x+b} = \frac{1}{c}$ is zero. What is the product of the roots of the equation?
 (A) $-\left(\frac{a+b}{2}\right)$ (B) $\left(\frac{a+b}{2}\right)$ (C) $-\left(\frac{a^2+b^2}{2}\right)$ (D) $\left(\frac{a^2+b^2}{2}\right)$
56. If u, v, w are real numbers such that $u^3 - 8v^3 - 27w^3 = 18uvw$, which one of the following is correct?
 (A) $u - v + w = 0$ (B) $u = -v = -w$ (C) $u - 2v = 3w$ (D) $u + 2v = -3w$
57. If $\tan x - \tan^2 x = 1$, then the value of $\tan^4 x - 2\tan^3 x - \tan^2 x + 2\tan x + 1$ is
 (A) 1 (B) 2 (C) 3 (D) 4
58. In $\triangle ABC$, $AD \perp BC$ at D. $BE \perp AC$ at E. AD and BE meet at F. If $BF = AC$, find $\angle ABC$
 (A) 40° (B) 45° (C) 50° (D) 60°
59. If ' α ' is an acute angle such that $1 + \cot \alpha - \operatorname{cosec} \alpha = \sqrt{3} - 1$, then the value of $1 + \tan \alpha + \sec \alpha$ is
 (A) $\sqrt{3} - 1$ (B) $\sqrt{3} + 1$ (C) 2 (D) $\frac{1}{2}$
60. Two dice are tossed. Find the probability that the total score is a prime number.
 (A) $\frac{5}{12}$ (B) $\frac{1}{2}$ (C) $\frac{7}{12}$ (D) $\frac{1}{3}$
61. The value of the expression $\sqrt{3} \operatorname{cosec} 20^\circ - \sec 20^\circ$ is equal to :
 (A) 2 (B) $\frac{2 \sin 20}{\sin 40}$ (C) 4 (D) $\frac{4 \sin 20}{\sin 40}$

Space for Rough Work

62. The line segment joining points $(-3, -4)$, and $(1, -2)$ is divided by y-axis in the ratio
(A) 1 : 3 (B) 2 : 3
(C) 3 : 1 (D) 3 : 2
63. The centroid of the triangle whose vertices are $(3, -7)$, $(-8, 6)$ and $(5, 10)$ is :
(A) $\left(\frac{-1}{3}, \frac{5}{3}\right)$ (B) $(0, 3)$ (C) $(-1, 5)$ (D) $(1, 5)$
64. If $a, b, c \in \mathbb{R}$ and equations $ax^2 + bx + c = 0$ and $x^2 + 2x + 9 = 0$ have a common root, then $a : b : c$ is
(A) 1 : 2 : 9 (B) 3 : 5 : 7 (C) 5 : 7 : 9 (D) None of these
65. In a toss of 4 fair coins, find probability of getting 2 heads?
(A) $\frac{3}{8}$ (B) $\frac{1}{4}$ (C) $\frac{1}{2}$ (D) $\frac{5}{16}$
66. The point which divides $A(0, 1)$ and $B(3, -1)$ externally in the ratio 3 : 1 is
(A) $\left(\frac{9}{2}, -2\right)$ (B) $\left(5, -\frac{5}{2}\right)$
(C) $\left(\frac{11}{2}, -3\right)$ (D) $\left(6, -\frac{7}{2}\right)$

Space for Rough Work

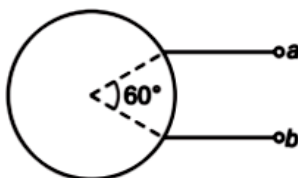
Recommended Time: 60 Minutes for Section – III

Section – III

PHYSICS – (PART – A)

This part contains **9 Multiple Choice Questions** number **67 to 75**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

67. If the length of the filament of a heater is reduced by 10%, the power of the heater will
 (A) increase by about 9% (B) increase by about 11%
 (C) increase by about 19% (D) decrease by about 10%
68. A copper wire of resistance R is cut into ten parts of equal length. Two pieces each are joined in series and then five such combinations are joined in parallel. The new combinations will have a resistance
 (A) R (B) $\frac{R}{4}$
 (C) $\frac{R}{5}$ (D) $\frac{R}{25}$
69. A uniform wire of resistance $18\ \Omega$ is bent in the form of a circle. The effective resistance across the points a and b is

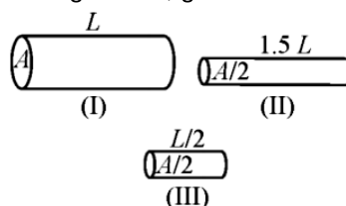


- (A) $3\ \Omega$
 (C) $2.5\ \Omega$

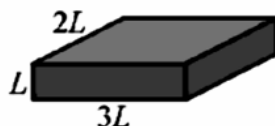
- (B) $2\ \Omega$
 (D) $6\ \Omega$

Space for Rough Work

70. The figure shows three cylindrical copper conductors along with their face areas and length. Rank them according to the current through them, greatest first



- (A) $i_1 = i_2 = i_3$
 (B) $i_1 > i_2 < i_3$
 (C) $i_1 < i_2 < i_3$
 (D) $(i_1 = i_3) < i_2$
71. Figure shows a rectangular solid conductor of edge lengths L , $2L$, and $3L$. A certain potential difference V is to be applied between pairs of opposite faces of the conductor as shown in figure: left-right, top-bottom and front-back. In which pair current is maximum



- (A) left-right
 (B) top-bottom
 (C) front-back
 (D) equal in all
72. A converging lens is used to form an image on a screen. When upper half of the lens is covered by an opaque screen
 (A) half the image will disappear
 (B) complete image will be formed of same intensity
 (C) half image will be formed of same intensity
 (D) complete image will be formed of decreased intensity
73. A point object is placed at a distance of 30 cm from a convex mirror of focal length 30 cm. The image will form at
 (A) infinity
 (B) pole
 (C) focus
 (D) 15 cm behind the mirror.
74. A boy is standing in front of a plane mirror at a distance of 3 m from it. Then the distance between the boy and his image is
 (A) 3 m
 (B) 4.5 m
 (C) 6 m
 (D) None of these
75. The image formed by a convex mirror is only one-third of the size of the object. If the focal length of the mirror is 12 cm, then the position of the image formed will be
 (A) 8 cm behind the mirror
 (B) 10 cm behind the mirror
 (C) 8 cm in front of the mirror
 (D) 10 cm in front of the mirror

Space for Rough Work

CHEMISTRY – (PART – B)

This part contains **9 Multiple Choice Questions** number **76 to 84**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

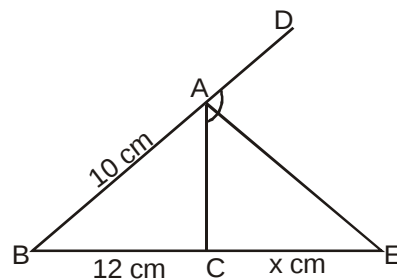
76. Which of the following reaction is based on activity series of metal?
(A) Decomposition reaction (B) Displacement reaction
(C) Double displacement reaction (D) Synthesis reaction
77. Which of the following metals forms amphoteric oxide when it reacts with oxygen?
(A) sodium (B) magnesium
(C) aluminium (D) potassium
78. Plaster of Paris hardens by:
(A) giving of CO_2 (B) changing into CaCO_3
(C) combining with water (D) giving out water
79. 'Alum' is an example of-
(A) single salt (B) double salt
(C) acids (D) none of these
80. Aluminium does not oxidise readily in air because-
(A) it is high in the electrochemical series
(B) it is low in the electrochemical series
(C) the metal does not combine with oxygen
(D) the metal is covered with a layer of oxide which does not rub off.
81. Each transition series contains a total of-
(A) 2 elements (B) 8 elements
(C) 10 elements (D) 18 elements
82. White silver chloride in sunlight turns to-
(A) grey (B) yellow
(C) remain white (D) red
83. Which of the following hydroxides is most basic-
(A) $\text{Be}(\text{OH})_2$ (B) $\text{Ba}(\text{OH})_2$
(C) $\text{Ca}(\text{OH})_2$ (D) $\text{Mg}(\text{OH})_2$
84. Which element has the highest electronegativity-
(A) C (B) Mg
(C) O (D) S

Space for Rough Work

MATHEMATICS – (PART – C)

This part contains 9 Multiple Choice Questions number 85 to 93. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE is correct.**

85. In $\triangle ABC$, the points B and C are $(-3, 1)$ and $(0, -2)$ respectively. If the centroid of this triangle is the origin, then the coordinates of A are
 (A) $\left(\frac{7}{2}, \frac{1}{2}\right)$ (B) $(4, 0)$
 (C) $(1, 2)$ (D) $(3, 1)$
86. If $\cot 15^\circ = m$ then $\frac{\cot 165^\circ + \cot 345^\circ}{\tan 15^\circ - \cot 105^\circ}$ is
 (A) m^2 (B) $-m^2$ (C) m (D) $-m$
87. If maximum value of $5\cos \theta + 12\sin \theta$ is p then $\frac{65}{p}$ is equal to
 (A) 5 (B) 4 (C) 6 (D) 3
88. A line passes through the points $(k+1, k)$ and $(k, k-1)$. The y-intercept of the line is
 (A) $k+1$ (B) k
 (C) $k-1$ (D) None of these
89. In the given figure AE is the bisector of the exterior $\angle CAD$ meeting BC produced in E. If $AB = 10$ cm, $AC = 6$ cm and $BC = 12$ cm. Find CE.
 (A) 12 cm
 (B) 16 cm
 (C) 20 cm
 (D) 18 cm



Space for Rough Work

90. If two roots of $x^3 - ax^2 + bx - c = 0$ are equal in magnitude but opposite in signs, then
 (A) $a + bc = 0$ (B) $a^2 = bc$ (C) $ab = c$ (D) $a - b + c = 0$
91. If α, β, r are roots of equation $x^3 - 3x + 1 = 0$, and $T_n = \alpha^n + \beta^n + r^n$. Find value of $\frac{T_{11} + T_8}{T_9}$?
 (A) 2 (B) 3 (C) 4 (D) 5
92. Find the sum of all the divisors of the number 1800.
 (A) 157 (B) 6045 (C) 1042 (D) 59
93. If $N = 901 \times 902 \times 903$. If N is divided by 25 the remainder is
 (A) 0 (B) 2 (C) 6 (D) 8

Space for Rough Work

FIITJEE Admission Test

for students presently in **Class 10 (Paper 1)**

SAMPLE PAPER ANSWER KEY

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