

FIITJEE SAMPLE PAPER

(Big Bang Edge Test / Talent Recognition Exam-2020)

for students presently in

Class 10 (Paper 1)



Time: 3 Hours (9:30 am – 12:30 pm)

Code 1000

Maximum Marks: 204

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, 60 Minutes on Section-II and 60 Minutes on Section-III.
- 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	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 80	+1	-0.25
	CHEMISTRY (PART-B)	81 to 94	+1	-0.25
	MATHEMATICS (PART-C)	95 to 108	+1	-0.25

- 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 at the bottom of this sheet.

Note: Please check this Question Paper contains all **108** 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.

Directions (Q. 1 to 3): In the following question there is a number series with one term missing shown by question mark (?). This term is one of the alternatives given. Choose that number.

1. 3, 5, 8, 13, 21, ?, 55
(A) 25 (B) 49
(C) 36 (D) 34
2. 80, 78, 75, 71, ?, 60
(A) 76 (B) 73
(C) 65 (D) 66
3. 2, 7, 17, 32, 52, ?
(A) 77 (B) 64
(C) 72 (D) 81

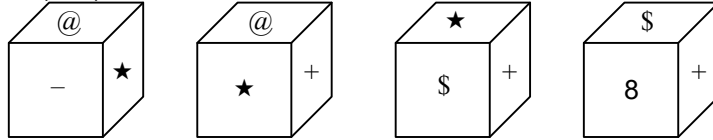
Directions (Q. 4 to 5): In each of the following questions choose appropriate option from given alternatives such that the relationship defined by ':' is preserved.

4. ABCD : NPRT :: FGHI : ?
(A) KLMN (B) OQRT
(C) RTUW (D) SUWY
5. Ace : bdF :: Fhj : ?
(A) ghk (B) giK
(C) dfH (D) fhL
6. A's mother says to A, 'My mother has a son whose son is C'. How is related to A?
(A) Cousin (B) Father
(C) Brother (D) Grandfather

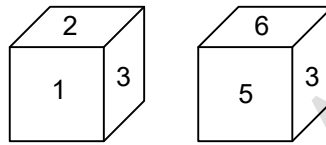
Space for Rough Work

7. If **PANTHER** is coded as **6901257** and **DAMP** is coded as **3946**, then how is **MATTER** coded?
 (A) 491175 (B) 411957
 (C) 491157 (D) 419157

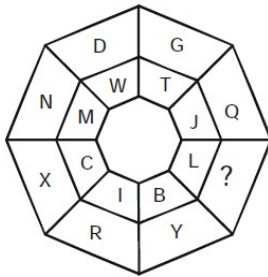
8. Four positions of a die are shown. Which symbols or number will be on the face opposite to the face with symbol (star)?



- (A) @ (B) \$
 (C) 8 (D) +
9. Two positions of a die are shown. Which digit will appear on the face opposite to the face with number 4?



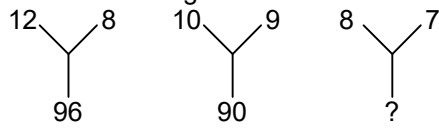
- (A) 3 (B) 5
 (C) 6 (D) 2
10. Find the missing character from among the given alternatives.



- (A) M (B) O
 (C) Q (D) R

Space for Rough Work

11. Find the missing character from among the given alternatives.



- (A) 56 (B) 60
(C) 65 (D) 70

12. What should come next in the following letter series?

Z X V T R P N L J Y W U S Q O _

- (A) M (B) K
(C) H (D) J

13. 'DEAN' is related to 'NDAE' and 'ROAD' is related to 'DRAO'. In the same way 'SOME' is related to?

- (A) EOMS (B) EMOS
(C) ESMO (D) MSEO

14. Mohan correctly remembers that his father's birthday is before twentieth January but after sixteenth January, whereas his sister correctly remembers that their father's birthday is after eighteenth January but before twenty third January. On which date in January is definitely their father's birthday?

- (A) Eighteenth (B) Nineteenth
(C) Twentieth (D) Twenty one

Space for Rough Work

Directions (Q. 15 to 19): In each question below is given a group of letters followed by digit/symbol code. You have to find out correct code for the word given below.

Letter	P	M	A	D	E	J	I	T	Q	U	O	F	H	W	B
Digit/Symbol Code	6	\$	7	1	%	2	δ	8	3	©	4	@	9	5	*

Conditions:

- (i) If the first letter is a consonant and the last letter is a vowel, their codes are to be interchanged.
- (ii) If the first letter is a vowel and the last letter is a consonant both are to be coded as the code for the last letter.
- (iii) If both the first and the last letters are consonants, both are to be coded as '#'.

15. OHBWDFT
 (A) 89*51@4 (B) 49*51@8
 (C) 89*51@8 (D) 49*51@4
16. HOPDAMI
 (A) 94617\$9 (B) δ4617\$δ
 (C) 94617\$δ (D) δ4617\$9
17. UAQFJPE
 (A) ©73@26% (B) %73@26©
 (C) %73@26% (D) 73@26©
18. FEPWBUH
 (A) %65*©9 (B) #%65*©#
 (C) 9%65*©@ (D) 9%65*©9
19. DEJATMI
 (A) 1%278\$δ (B) 1%278\$1
 (C) δ%278δ1 (D) δ%278\$1
20. If 'P' denotes 'multiplied by', 'R' denotes 'added to', 'T' denotes 'subtracted from' and 'W' denotes 'divided by', then
64 W 4 P 8 T 6 R 4 = ?
 (A) 96 (B) $2\frac{2}{3}$
 (C) 130 (D) 126

Space for Rough Work

SAMPLE PAPER-BBE/TRE-2020-C-X (Paper-1)-AT+PCM-6

21. What should come next in the following letter series?
A Z A B Y A B C X A B C D W A B C D E V A B C D E
(A) F (B) T
(C) A (D) G
22. D is brother of B. M is brother of B. K is father of M. T is wife of K. How is B related to T?
(A) Son (B) Daughter
(C) Son or Daughter (D) Brother
23. Town D is to the West of town M. Town R is to the South of town D. Town K is to the East of town R. Town K is towards which direction of town D?
(A) South (B) East
(C) North-East (D) South-East
24. In a certain code, ROAM is written as 5913 and DONE is written as 4962. How is MEAN written in that code?
(A) 5216 (B) 3126
(C) 3216 (D) 9126

Directions (Q. 25 to 27): Study the following information to answer the given questions.

In a certain code, 'her idea has merit' is written as 'fo la bu na' 'merit list has been displayed' is written as 'jo ke la si na', 'her name displayed there' is written as 'ya si bu zo' and 'name is merit list' is written as 'na ya go ke'.

25. What does 'ke' stands for?
(A) been (B) has
(C) merit (D) list
26. What is code for 'idea'?
(A) fo (B) la
(C) bu (D) na
27. What does 'zo' stand for?
(A) there (B) displayed
(C) name (D) her

Space for Rough Work

Directions (Q. 28 to 30): Study the following information to answer the given questions.

Five plays A, B, C, D and E were organized in a week from Monday to Saturday with one play each day and no play was organized on one of these days. Play D was organized before Thursday but after Monday. Play E was organized on Saturday. Play C was not organized on the first day. Play B was organized on the next day on which play C was organized. Play A was organized on Tuesday.

28. On which day was play B organized?
(A) Thursday (B) Friday
(C) Wednesday (D) Saturday
29. On which day was no play organized?
(A) Monday (B) Saturday
(C) Thursday (D) Tuesday
30. Which play was organized on Wednesday?
(A) A (B) B
(C) C (D) D

Space for Rough Work

Recommended Time: 60 Minutes for Section – II

Section – II

PHYSICS – (PART – A)

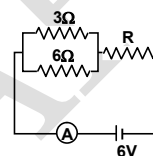
This part contains **12 Multiple Choice Questions** number **31 to 42**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

31. If a wire of resistance 1Ω is stretched to double of its length, then the resistance will become
(A) $\frac{1}{2}\Omega$ (B) 2Ω
(C) $\frac{1}{4}\Omega$ (D) 4Ω
32. A permanent magnet
(A) Attracts all substances
(B) Attracts only magnetic substances
(C) Attracts magnetic substances and repels all non-magnetic substances
(D) Attracts non-magnetic substances and repels magnetic substances
33. To produce biogas in a biogas plant, we need
(A) air but not water (B) water but not air
(C) air and water (D) neither air nor water
34. The incorrect statement regarding the magnetic field lines of the magnetic field B is
(A) Magnetic intensity is a measure of magnetic field lines passing through unit area held normal to it
(B) Magnetic field lines form a close curve
(C) Inside a magnet, its magnetic field lines move from north pole of a magnet towards its south pole
(D) Magnetic lines of force never intersect each other
35. To keep the chain reaction under control in a nuclear reactor, one uses
(A) Moderator (B) Coolant
(C) Both (A) and (B) (D) Reactor core

Space for Rough Work

36. Two magnetic field lines due to a bar magnet
 (A) Intersect at the neutral point
 (B) Intersect near the poles of the magnet
 (C) Intersect on the equatorial axis of the magnet
 (D) Do not intersect at all
37. Which is not true :
 (A) Resistance of metals increases with increasing temperature
 (B) Resistance of semi-conductors decreases with rise of temperature
 (C) Resistance of an electrolyte increases with rise of temperature
 (D) None of the above
38. The magnetic field lines inside a bar magnet
 (A) Are from south-pole to north-pole of the magnet
 (B) Are from north-pole to south-pole of the magnet
 (C) Do not exist
 (D) Depend upon the area of cross-section of the bar magnet

39. If the ammeter in the given circuit reads 2A, the resistance R is:
 (A) 1 ohm
 (B) 2 ohm
 (C) 3 ohm
 (D) 4 ohm



40. In any nuclear reaction the reactants and the resultants must always be in conformity with the law of the conservation of
 (A) Energy alone
 (B) Charge number alone
 (C) Mass number alone
 (D) Both charge and mass number
41. Which of the following can be used as safety device
 (A) Ammeter
 (B) Voltmeter
 (C) Fuse
 (D) None of these
42. Which of the following is normally connected in parallel
 (A) Ammeter
 (B) Voltmeter
 (C) Both (A) and (B)
 (D) None of these

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. When a magnesium ribbon is burnt in air, the ash formed is
(A) Black (B) White
(C) Yellow (D) Pink
44. The reaction in which two compounds exchange their ions to form two new compounds is called
(A) Displacement reaction (B) Combination reaction
(C) Double displacement reaction (D) Redox reaction
45. Preservatives are used to preserve
(A) Food (B) Acid
(C) Base (D) Water
46. If the pH value is greater than 7, then solution is
(A) Acidic (B) Basic
(C) Neutral (D) Salty
47. KOH is used in making of
(A) Drain cleaner (B) Antacid
(C) Cement (D) Liquid soap
48. Acids ionize in water to produce
(A) OH^- ions (B) H^+ ions
(C) $(\text{SO}_4)^{2-}$ ions (D) H_2O molecules.

Space for Rough Work

49. Haematite is an ore of
(A) Iron (B) Aluminium
(C) Copper (D) Tin
50. Which is correct order as per the reactivity of the metals
(A) Zn > Fe > Cu > Ag (B) Fe > Zn > Cu > Ag
(C) Cu > Zn > Fe > Ag (D) Zn > Cu > Fe > Ag
51. Which of the following non-metal is good conductor of electricity?
(A) Graphite (B) Phosphorus
(C) Hydrogen (D) Bromine
52. Chemically rust is
(A) Hydrated ferrous oxide (B) Only ferric oxide
(C) Hydrated ferric oxide (D) None of these
53. The ability of metals to be drawn into thin wire is known as
(A) Ductility (B) Malleability
(C) Sonority (D) Conductivity
54. A species which is able to release a H^+ ion is called
(A) Acid (B) Base
(C) Neutral compound (D) Cation

Space for Rough Work

MATHEMATICS – (PART – C)

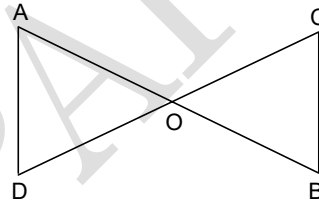
This part contains **12 Multiple Choice Questions** number **55 to 66**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

55. If α and β are the zeroes of the quadratic polynomial $x^2 + 5x + 4$ then $\alpha - \beta = ?$
 (A) ± 3 (B) ± 4
 (C) 0 (D) 5

56. If $\sin x + \operatorname{cosec} x = 2$ then $\sin^n x + \operatorname{cosec}^n x = ?$
 (A) 2^n (B) 2^{n-1}
 (C) 2^{n-2} (D) 2

57. The HCF of the polynomial $(x^2 - 4x + 4)(x + 3)$ and $(x^2 + 2x - 3)(x - 2)$ is
 (A) $(x + 3)$ (B) $(x - 2)$
 (C) $(x + 3)(x - 2)$ (D) $(x + 3)(x - 2)^2$

58. In the given figure $OA \times OB = OC \times OD$, then which of the following is correct.
 (A) $\angle A = \angle B$
 (B) $\angle A = \angle C$
 (C) $\angle D = \angle C$
 (D) none of these



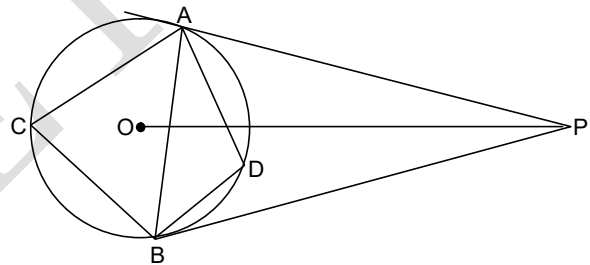
59. If $2y \cos \theta = x \sin \theta$ and $2x \sec \theta - y \operatorname{cosec} \theta = 3$ then the value of $x^2 + 4y^2$ is
 (A) 2 (B) 1
 (C) 0 (D) 4

60. If α and β are zeroes of a polynomial $p(x)$, then which of the following is not true.
 (A) $p(\alpha) + p(\beta) = 0$ (B) $p(\alpha) - p(\beta) = 0$
 (C) $\frac{p(\alpha)}{p(\beta)} = 0$ (D) $k_1 p(\alpha) + k_2 p(\beta) = 0, k_1, k_2 \neq 0$

Space for Rough Work

61. Find the sum of all three digit numbers which leave remainder 2 when divided by 5
 (A) 98910 (B) 9820
 (C) 9830 (D) 9840
62. If a point p is equidistant from the sides of a triangle ABC then p must be
 (A) incentre (B) circumcenter
 (C) orthocenter (D) centroid
63. $\tan 38^\circ - \cot 22^\circ = ?$
 (A) $\frac{1}{2} \operatorname{cosec} 38^\circ \sec 22^\circ$ (B) $2 \sin 22^\circ \cos 38^\circ$
 (C) $-\frac{1}{2} \operatorname{cosec} 22^\circ \sec 38^\circ$ (D) none of these
64. The digit in unit's place of the product $81 \times 82 \times 83 \times \dots \times 89$ is
 (A) 1 (B) 0
 (C) 2 (D) 3
65. The value of k for which $x + k$ is a factor of $x^3 + kx^2 - 2x + k + 4$ is
 (A) -5 (B) 2
 (C) $-\frac{4}{3}$ (D) $\frac{6}{7}$

66. In the diagram O is the centre of the circle and $\angle OPA = 30^\circ$ then $\angle ADB$ is
 (A) 60°
 (B) 120°
 (C) 45°
 (D) 90°



Space for Rough Work

Recommended Time: 60 Minutes for Section – III

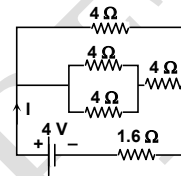
Section – III

PHYSICS – (PART – A)

This part contains **14 Multiple Choice Questions** number **67 to 80**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

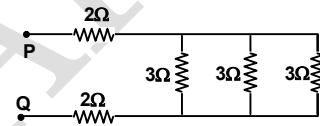
67. In the circuit shown, the value of I in ampere is:

- (A) 1 (B) 0.69
(C) 0.4 (D) 1.5



68. What will be the resistance between P and Q in the following circuit?

- (A) $(1/3) \Omega$ (B) $(2/3) \Omega$
(C) 2Ω (D) 5Ω

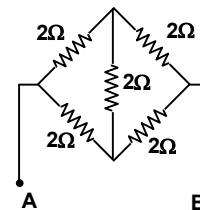


69. The site of hydroelectric plant should be chosen carefully because it

- (A) produces a large amount of carbon monoxide and carbon dioxide
(B) produces a large amount of electricity
(C) affects the organisms of the region
(D) is expensive

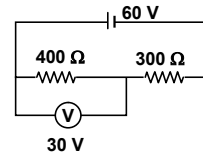
70. What is the total resistance across A and B in the circuit as shown in the figure.

- (A) 1Ω (B) 2Ω
(C) 1.5Ω (D) none of these



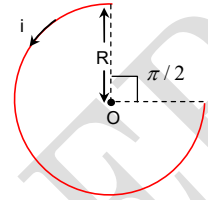
Space for Rough Work

71. In the circuit, the voltmeter reads 30 V. what is the resistance of the voltmeter?
 (A) 1200 Ω (B) 700 Ω
 (C) 400 Ω (D) 300 Ω

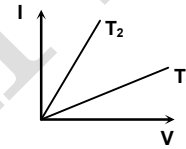


72. A current i ampere flows in a circular arc of wire whose radius is R , which subtends an angle $3\pi/2$ radian at its centre. The magnitude of magnetic field at the center is

- (A) $\frac{\mu_0 i}{R}$ (B) $\frac{\mu_0 i}{2R}$
 (C) $\frac{2\mu_0 i}{R}$ (D) $\frac{3\mu_0 i}{8R}$



73. The current I and voltage V graphs for a given metallic wire at two different temperatures T_1 and T_2 are shown in the figure. It is concluded that
 (A) $T_1 > T_2$ (B) $T_1 < T_2$
 (C) $T_1 = T_2$ (D) $T_1 = 2T_2$

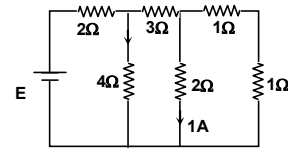


74. Field at the centre of a circular coil of radius r , through which a current I flow is
 (A) Directly proportional to r (B) Inversely proportional to I
 (C) Directly proportional to I (D) Directly proportional to I^2
75. A long solenoid has a radius a and number of turns per unit length n . If it carries a current i , then the magnetic field on its axis is directly proportional to
 (A) ani (B) ni
 (C) $\frac{ni}{a}$ (D) n^2i

Space for Rough Work

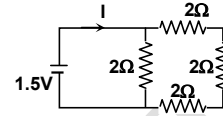
76. The e.m.f. of the cell shown in the figure is
 (A) 12 V
 (C) 16 V

- (B) 13 V
 (D) 18 V



77. The value of I will be :
 (A) 1 amp
 (C) 3 amp

- (B) 2 amp
 (D) 4 amp

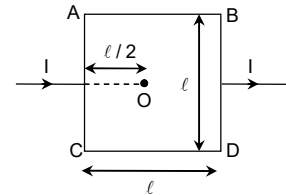


78. Resistance of a wire is 1Ω . It is bent in the form of a square. What is the effective resistance across adjacent corners?
 (A) 1Ω
 (C) $\frac{3}{16} \Omega$
- (B) 3Ω
 (D) $\frac{3}{4} \Omega$

79. A man has five resistors each of value $1/5 \Omega$. What is the maximum resistance he can obtain by connecting them?
 (A) 1Ω
 (C) $1/2 \Omega$
- (B) 5Ω
 (D) $2/5 \Omega$

80. Find the magnitude of magnetic field at point O. The length of AC, AB, BD, CD are equal. (where I is the current)

- (A) Zero
 (C) $\frac{\mu_0 I}{8 \pi \ell}$
- (B) $\frac{\mu_0 I}{4 \pi \ell}$
 (D) None of these



Space for Rough Work

CHEMISTRY – (PART – B)

This part contains **14 Multiple Choice Questions** number **81 to 94**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

81. In the decomposition of lead (II) nitrate to give lead (II) oxide, nitrogen dioxide and oxygen gas, the coefficient of nitrogen dioxide (in the balanced equation) is
(A) 1 (B) 2
(C) 3 (D) 4
82. Dilute hydrochloric acid is added to granulated zinc taken in a test tube. The following observations are recorded. Point out the correct observation.
(A) The surface of metal becomes shining
(B) The reaction mixture turns milky
(C) Odour of a pungent smelling gas is recorded
(D) A colourless and odourless gas is evolved
83. In which of the following, heat energy will be evolved?
(A) Electrolysis of water
(B) Dissolution of NH_4Cl in water
(C) Burning of L.P.G.
(D) Decomposition of AgBr in the presence of sunlight
84. On immersing an iron nail in CuSO_4 solution for few minutes, you will observe
(A) No reaction takes place
(B) The colour of solution fades away
(C) The surface of iron nails acquires a black coating
(D) The colour of solution changes to green
85. An element X on exposure to moist air turns reddish-brown and a new compound Y is formed. The substance X and Y are
(A) $\text{X} = \text{Fe}$, $\text{Y} = \text{Fe}_2\text{O}_3$ (B) $\text{X} = \text{Ag}$, $\text{Y} = \text{Ag}_2\text{S}$
(C) $\text{X} = \text{Cu}$, $\text{Y} = \text{CuO}$ (D) $\text{X} = \text{Al}$, $\text{Y} = \text{Al}_2\text{O}_3$

Space for Rough Work

SAMPLE PAPER-BBE/TRE-2020-C-X (Paper-1)-AT+PCM-18

86. Bronsted-Lowry acid in reaction $\text{H}_2\text{O} + \text{NH}_3 \longrightarrow \text{NH}_4^+ + \text{OH}^-$ is
(A) H_2O (B) NH_3
(C) OH^- (D) NH_4^+
87. Which of the following salts has no water of crystallization?
(A) Blue vitriol (B) Washing soda
(C) Baking soda (D) Gypsum
88. The function of quick lime in soda lime mixture is to
(A) Absorb moisture present in soda lime (B) Increase the efficiency of soda lime
(C) Increase the pH of soda lime (D) Take part in reaction with NaOH
89. The pH of a solution of HCl is 4. This shows that the molarity of the solution is
(A) 4.0M (B) 0.4M
(C) 0.0001M (D) 0.001M
90. Which of the following does NOT form an acidic salt?
(A) Phosphoric acid (B) Carbonic acid
(C) Hydrochloric acid (D) Sulphuric acid
91. During smelting, an additional substance is added which combines with impurities to form a fusible product known as
(A) Slag (B) Mud
(C) Gangue (D) Flux
92. Aluminum is used for making cooking utensils. Which of the following properties of aluminum are responsible for the same?
(i) Good thermal conductivity
(ii) Good electrical conductivity
(iii) Ductility
(iv) High melting point
(A) (i) and (ii) (B) (i) and (iii)
(C) (ii) and (iii) (D) (i) and (iv)
93. Two Statement are made
Statement A: Zinc is used in the galvanization of iron
Statement B: Its coating on Iron articles increases the life of it by protecting it from rusting.
(A) Statement A is correct only (B) Statement B is correct only
(C) Both Statement A and B are correct (D) Both Statement A and B are incorrect
94. Which of the following oxide **CANNOT** be reduced with carbon to obtain the metal?
(A) MnO_2 (B) Cr_2O_3
(C) Al_2O_3 (D) All the above

Space for Rough Work

MATHEMATICS – (PART – C)

This part contains **14 Multiple Choice Questions** number **95 to 108**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

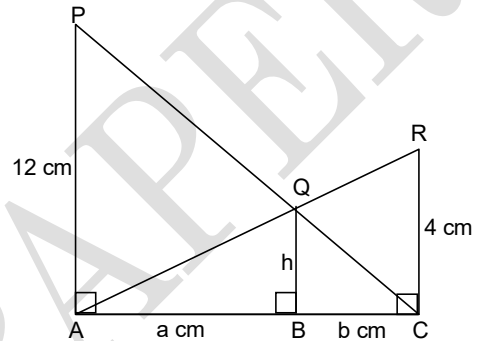
95. If $x + k$ is the HCF of $x^2 + ax + b$ and $x^2 + cx + d$ then what is the value of k ?
- (A) $\frac{b+d}{a+c}$ (B) $\frac{a+b}{c+d}$
 (C) $\frac{a-b}{c-d}$ (D) none of these
96. If $\triangle ABC \sim \triangle PQR$ and $\frac{PQ}{AB} = \frac{5}{2}$ then $\text{area}(\triangle ABC) : \text{area}(\triangle PQR) = ?$
- (A) $\frac{25}{4}$ (B) $\frac{4}{25}$
 (C) $\frac{5}{2}$ (D) $\frac{25}{2}$
97. From the top of a tower 100m high, the angles of depression of the bottom and the top of a building just opposite to it are observed to be 60° and 45° respectively. Then height of the building is
- (A) $\frac{100(3-\sqrt{3})}{3}$ m (B) $\frac{100(3+\sqrt{3})}{3}$ m
 (C) $\frac{3+\sqrt{3}}{3}$ m (D) $\frac{50(3-\sqrt{3})}{3}$ m

Space for Rough Work

98. If $x = 2 + \sqrt{3}$ and $xy = 1$, then $\frac{x}{\sqrt{2} + \sqrt{x}} + \frac{y}{\sqrt{2} - \sqrt{y}} = ?$
- (A) $\sqrt{2}$ (B) $\sqrt{3}$
 (C) 1 (D) none of these

99. If $x + \frac{1}{x} = 4$ then $x^5 + \frac{1}{x^5} = ?$
- (A) 723 (B) 724
 (C) 725 (D) 726

100. In the given figure, PA, QB and RC are each perpendicular to AC. If AP = 12 cm, RC = 4 cm then QB = ?
- (A) 2 cm
 (B) 3 cm
 (C) $\frac{1}{5}$ cm
 (D) 4 cm

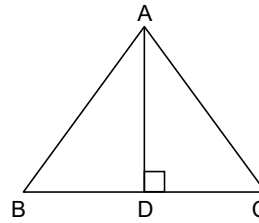


101. $P = 2(4)(6) \dots\dots(20)$ and $Q = 1(3)(5) \dots\dots(19)$. What is the HCF of P and Q?
- (A) $3^3 5^7$ (B) $3^4 5$
 (C) $3^4 5^2 7$ (D) $3^3 5^2$
102. In a frequency distributions, mode is 7.88, mean is 8.32, then median is
- (A) 8.17 (B) 8
 (C) 7.17 (D) 8.27
103. If $2^x + 3^y = 17$, $2^{x+2} - 3^{y+1} = 5$ then value of x and y is
- (A) $x = 2, y = 3$ (B) $x = 2, y = 9$
 (C) $x = 3, y = 2$ (D) $x = 9, y = 2$

Space for Rough Work

104. Given an equilateral triangle ABC such that AD is its altitude on side BC. Then which of the following is true

- (A) $AB^2 = \frac{1}{2} AD^2$
 (B) $3AB^2 = 2AD^2$
 (C) $3AB^2 = 4AD^2$
 (D) $4AB^2 = 3AD^2$

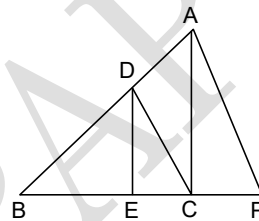


105. If $\sin\theta + \cos\theta = m$ then value of $(\sin\theta - \cos\theta)$ is

- (A) $\sqrt{2+m^2}$ (B) m
 (C) $\sqrt{2+\frac{m}{2}}$ (D) $\sqrt{2-m^2}$

106. In the given figure if $DE \parallel AC$ and $DC \parallel AP$ then which of the following is true

- (A) $BE(AD + CP) = BE^2$
 (B) $BE \times CP = EC \times BC$
 (C) $BC \times CP = EC \times BC$
 (D) $BD \times DE = BE^2$



107. If $a^2 \sec^2\theta - b^2 \tan^2\theta = c^2$. Find the value of $\sin\theta$

- (A) $\pm \sqrt{\frac{c^2 - b^2}{c^2 - a^2}}$ (B) $\pm \sqrt{\frac{c^2 + 2b}{c^2 - 2a}}$
 (C) $\pm \sqrt{\frac{c+b}{c^2 + a^2}}$ (D) $\pm \sqrt{\frac{c^2 - a^2}{c^2 - b^2}}$

108. The mean of n observation is \bar{x} , If the first term is increased by 1 and second term is increased by 2 and soon. The new mean is:

- (A) $\bar{x} + \left(\frac{n-1}{2}\right)$ (B) $\bar{x} + \left(\frac{n+1}{2}\right)$
 (C) $\bar{x} + \frac{n(n+1)}{2}$ (D) $\bar{x} + n$

Space for Rough Work

FIITJEE SAMPLE PAPER – 2020

(Big Bang Edge Test / Talent Recognition Exam)

for students presently in

Class 10 (Paper 1)

ANSWERS

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