# FIITJ EE sAMPLE PAPER <br> (FIITJ EE Talent Reward Exam-2020) 

## for students presently in

## Class 8 (Paper 2)

Time: 3 Hours (1:45 pm - 4:45 pm)


Maximum Marks: 240

## 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 30 Minutes on Section-I, 50 Minutes on Section-II, 50 Minutes on Section-III and 50 Minutes on Section-IV.
2. 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 | PHYSICS | (PART-A) |  | 1 to 6 | +1 | 0 |
|  | CHEMISTRY | (PART-B) | 7 to 12 | +1 | 0 |
|  | MATHEMATICS | (PART-C) | 13 to 18 | +1 | 0 |
|  | BIOLOGY | (PART-D) | 19 to 24 | +1 | 0 |
| SECTION - II | PHYSICS | (PART-A) | 25 to 32 | +3 | -1 |
|  | CHEMISTRY | (PART-B) | 33 to 40 | +3 | -1 |
|  | MATHEMATICS | (PART-C) | 41 to 48 | +3 | -1 |
| SECTION - III | PHYSICS | (PART-A) | 49 to 54 | +3 | -1 |
|  | CHEMISTRY | (PART-B) | 55 to 60 | +3 | -1 |
|  | MATHEMATICS | (PART-C) | 61 to 66 | +3 | -1 |
|  | BIOLOGY | (PART-D) | 67 to 72 | +3 | -1 |
| SECTION - IV | PHYSICS | (PART-A) | 73 to 77 | +3 | 0 |
|  | CHEMISTRY | (PART-B) | 78 to 82 | +3 | 0 |
|  | MATHEMATICS | (PART-C) | 83 to 87 | +3 | 0 |
|  | PHYSICS | (PART-D) | 88 to 90 | +3 | 0 |
|  | CHEMISTRY | (PART-E) | 91 to 93 | +3 | 0 |
|  | MATHEMATICS | (PART-F) | 94 to 96 | +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 at the bottom of this sheet.
6. See method of marking of bubbles at the back of cover page for question no. 88 to 96.

Note: Please check this Question Paper contains all 96 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 | $:$ |

## For questions 88 to 96

Numerical based questions single digit answer 0 to 9

## Example 1:

If answer is 6 .
Correct method:
(0)
(2)
(3) (4) (5)
6 (7)
(8) (9)

## Example 2:

If answer is 2.
Correct method:
(0) (1)
(2) (3)
(4) (5)
(6) 7
(8) (9)

## Recommended Time: 30 Minutes for Section - I

## Section - I

## PHYSICS - (PART - A)

This part contains 6 Multiple Choice guestions number 1 to 6. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

1. The maximum force of friction when the block is just starting to move is called the $\qquad$ $-$
(A) sliding friction
(B) limiting friction
(C) rolling friction
(D) none of these
2. An object weighting 10 N in air, weighs 9.3 N in a liquid. The buoyant force experienced by the object is
(A) $\frac{10}{9.3} \mathrm{~N}$
(B) $\frac{9.3}{10} \mathrm{~N}$
(C) 0.7 N
(D) $(10+9.3) \mathrm{N}$
3. is the S.I. unit of density of an object.
(A) $\mathrm{kg} \mathrm{m}^{-3}$
(B) $\mathrm{g} \mathrm{cm}^{-3}$
(C) $\mathrm{g} \mathrm{cm}^{3}$
(D) $\mathrm{kg} \mathrm{cm}^{3}$
4. Mass per unit volume of water is $\qquad$
(A) $1 \mathrm{~kg} / \mathrm{m}^{3}$
(B) $1000 \mathrm{~kg} / \mathrm{m}^{3}$
(C) $1 \mathrm{~g} / \mathrm{cm}^{3}$
(D) Both (B) and (C)
5. The mass of an astronaut on the surface of the earth is 60 kg . The ratio of the mass of the astronaut on the surface of earth and on the surface of moon will be
(A) $1: 6$
(B) $6: 1$
(C) $2: 1$
(D) $1: 1$
6. By Ohm's law
(A) $V=\frac{1}{R}$
(B) $I=\frac{V}{R}$
(C) $\mathrm{R}=\mathrm{VI}$
(D) $\mathrm{V}=\frac{\mathrm{R}}{\mathrm{l}}$

## CHEMISTRY - (PART - B)

This part contains 6 Multiple Choice Questions number 7 to 12. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
7. An element $X$ forms an oxide $X O$ which turns red litmus blue. Identify $X$.
(A) A metal
(B) A non-metal
(C) A metalloid
(D) A noble gas
8. Coal gas is a mixture of
(A) $\mathrm{CH}_{4}+\mathrm{H}_{2}+\mathrm{CO}$
(B) $\mathrm{C}_{4} \mathrm{H}_{10}+\mathrm{H}_{2}$
(C) $\mathrm{C}_{4} \mathrm{H}_{10}+\mathrm{H}_{2} \mathrm{O}$
(D) $\mathrm{C}_{2} \mathrm{H}_{6}+\mathrm{H}_{2}+\mathrm{O}_{2}$
9. Which polymer is known as synthetic wool?
(A) nylon
(B) acrylic
(C) polyester
(D) bakelite
10. $\quad \mathrm{C}_{12} \mathrm{H}_{22} \mathrm{O}_{11} \xrightarrow[\mathrm{H}_{2} \mathrm{SO} \mathrm{O}_{4}]{\text { Con. }} 12 \mathrm{C}+11 \mathrm{H}_{2} \mathrm{O}$

Which of the following is obtained in the above reaction?
(A) Animal charcoal
(B) Sugar charcoal
(C) Coke
(D) Wood charcoal
11. Gasoline is obtained from crude petroleum oil by its
(A) fractional distillation
(B) vacuum distillation
(C) steam distillation
(D) pyrolysis
12. When a metal X is added to dilute HCl solution, there is no evolution of gas. The metal X is
(A) K
(B) Na
(C) Ag
(D) Zn

## MATHEMATICS - (PART - C)

This part contains 6 Multiple Choice Guestions number 13 to 18. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
13. Sara's income is $25 \%$ more than that of Anil. By what percent Anil's income is less than that of Sara?
(A) 25
(B) 24
(C) $22 \frac{1}{2}$
(D) 20
14. $5 x^{2}-19 x+12=$
(A) $(5 x-4)(x-3)$
(B) $(5 x-4)(x+3)$
(C) $(x+2)(5 x-1)$
(D) $(5 x-6)(x-1)$
15. The rational number $-\frac{18}{5}$ lies between the consecutive integers
(A) -2 and -3
(B) -3 and -4
(C) -4 and -5
(D) -5 and -6
16. A sum of money amounts to Rs. 5200 in 5 years and to Rs. 5680 in 7 years at simple interest. The rate of interest per annum is :
(A) $3 \%$
(B) $4 \%$
(C) $5 \%$
(D) $6 \%$
17. If $25^{n-1}+100=5^{2 n-1}$, then the value of ' $n$ ' is:
(A) 5
(B) 2
(C) -2
(D) -3
18. If $x-\frac{1}{x}=4$, then $\left(x+\frac{1}{x}\right)$ is equal to:
(A) $5 \sqrt{2}$
(B) $2 \sqrt{5}$
(C) $4 \sqrt{2}$
(D) $4 \sqrt{5}$

## BIOLOGY - (PART - D)

This part contains 6 Multiple Choice Guestions number 19 to 24. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
19. Manual removal of weeds can be done with the help of $\qquad$ .
(A) Plough
(B) Khurpi
(C) Seed drill
(D) Pump
20. Before sowing the seeds, it is necessary to break soil to the size of grains to get better yield. The main tool used for such are:
(A) Tractor, Hoe, Seed drill
(B) Bullock, Tractor, Sprinkler
(C) Plough, Hoe, Cultivator
(D) Seed drill, Plough, Dripper
21. Cilia are found in:
(A) Paramecium
(B) Euglena
(C) Amoeba
(D) Chlamydomonas
22. Which organ does hepatitis affect?
(A) Heart
(B) Brain
(C) Liver
(D) Kidneys
23. Animal cell do not have:
(A) Nucleus
(B) Plasma membrane
(C) Plastid
(D) Mitochondria
24. The below mentioned figure represent which method of irrigation?

(A) Drip system
(B) Sprinkler system
(C) Dhekli
(D) Rahat

## Recommended Time: 50 Minutes for Section - II

## Section - II <br> PHYSICS - (PART - A)

This part contains 8 Multiple Choice Guestions number 25 to 32. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
25. A liquid has density $1.5 \mathrm{~g} / \mathrm{cc} .50 \mathrm{cc}$ of it is mixed with 30 cc of water. What will be the density of mixture solution?
(A) $13.125 \mathrm{~g} / \mathrm{cc}$
(B) $1.3125 \mathrm{~g} / \mathrm{cc}$
(C) $1.11 \mathrm{~g} / \mathrm{cc}$
(D) $2.12 \mathrm{~g} / \mathrm{cc}$
26. In the given figure if coefficient of friction between block and surface is 0.1 then find acceleration produced by the resultant force acting on the block (take $\mathrm{g}=10 \mathrm{~m} / \mathrm{s}^{2}$ )
(A) $3 \mathrm{~m} / \mathrm{s}^{2}$
(B) $2 \mathrm{~m} / \mathrm{s}^{2}$

27. Current flows when
(A) the potential of a body is very high
(B) the potential of a body is very low
(C) placed near a body of low potential
(D) placed in contact with a body of different potential
28. A force of 15 N acts separately on two bodies of masses 3 kg and 5 kg . The ratio of the accelerations produces in the two cases will be
(A) $5: 3$
(B) $3: 5$
(C) $8: 15$
(D) $15: 8$.
29. A kilowatt hour is a unit of
(A) energy
(B) power
(C) electric charge
(D) electric current
30. Frictional force can't be measured in
(A) kg wt
(B) newton
(C) dyne
(D) $\mathrm{kg} \mathrm{m} / \mathrm{s}$
31. Aluminium has a density of $2.7 \mathrm{~g} / \mathrm{cc}$. The mass of 15 cc of aluminium is
(A) 45 g
(B) 40.5 g
(C) 80 g
(D) 100 g
32. A body of weight $w_{1}$ is suspended from the ceiling of a room through a chain of weight $w_{2}$. The ceiling pulls the chain by a force
(A) $w_{1}$
(B) $w_{2}$
(C) $w_{1}+w_{2}$
(D) $\frac{w_{1}+w_{2}}{2}$

## CHEMISTRY - (PART - B)

This part contains 8 Multiple Choice Questions number 33 to 40. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
33. Range of carbon atoms in gasoline is:
(A) $\mathrm{C}_{15}-\mathrm{C}_{20}$
(B) $\mathrm{C}_{2}-\mathrm{C}_{7}$
(C) $\mathrm{C}_{5}-\mathrm{C}_{12}$
(D) $\mathrm{C}_{13}-\mathrm{C}_{15}$
34. An element $X$ forms two oxides XO and $\mathrm{XO}_{2}$, the oxide XO is neutral but $\mathrm{XO}_{2}$ is acidic in nature, the element $X$ is most likely to be:
(A) Sulphur
(B) Carbon
(C) Calcium
(D) Hydrogen
35. Which of the following have branched structure?
(A) Low density polythene
(B) High density polythene
(C) Poly Vinyl Chloride
(D) Cellulose
36. Which of the following is NOT correct regarding terylene?
(A) Step-growth polymer
(B) Synthetic fibre
(C) Condensation polymer
(D) Thermosetting plastic
37. Boron is
(A) metal
(B) metalloid
(C) non-metal
(D) alkali
38. Which will condense near the top out of petrol, diesel oil, fuel oil and kerosene?
(A) Petrol
(B) Diesel oil
(C) Fuel oil
(D) Kerosene
39. Which of the following is NOT an example of addition polymerization?
(A) Teflon
(B) Polythene
(C) Nylon
(D) PVC
40. An alloy is
(A) a compound
(B) a heterogeneous mixture
(C) a homogeneous mixture
(D) an element

## MATHEMATICS - (PART - C)

This part contains 8 Multiple Choice Guestions number 41 to 48. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
41. If $a^{3}-b^{3}=56$ and $a-b=2$, then value of $\left(a^{2}+b^{2}\right)$ will be:
(A) 48
(B) 20
(C) 22
(D) 5
42. If $27^{2 x-1}=(243)^{3}$, then the value of ' $x$ ' is :
(A) 3
(B) 6
(C) 7
(D) 9

43 The cost price of 36 books is equal to the selling price of 30 books. The gain percent is:
(A) $20 \%$
(B) $16 \frac{4}{6} \%$
(C) $18 \%$
(D) $82 \frac{2}{6} \%$
44. Diagonals of a rectangle $A B C D$ meet at $O$. If $A C=14 \mathrm{~cm}$ then $B O$ is equal to
(A) 6 cm
(B) 7 cm
(C) 8 cm
(D) 14 cm
45. Diagonals of which of the following quadrilaterals do not bisect each other?
(A) Parallelogram
(B) Trapezium
(C) Square
(D) Rectangle
46. What is the multiplicative inverse of $a-\frac{1}{a}$ ?
(A) $a+\frac{1}{a}$
(B) $\frac{1}{\mathrm{a}}-\mathrm{a}$
(C) $\frac{a}{a-1}$
(D) $\frac{a}{a^{2}-1}$
47. If $3 x=5 y=4 z$ then $x: y: z$ is equals to:
(A) $9: 12: 16$
(B) $20: 12: 15$
(C) $15: 10: 9$
(D) $8: 5: 3$
48. The rational form of $2 . \overline{6}$ is
(A) $\frac{1}{3}$
(B) $\frac{7}{3}$
(C) $\frac{8}{3}$
(D) $\frac{5}{3}$

## Recommended Time: 50 Minutes for Section - III <br> Section - III

## PHYSICS - (PART - A)

This part contains 6 Multiple Choice Guestions number 49 to 54. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
49. The charge on an electron is equal to
(A) magnitude of charge on proton
(B) $1.6 \times 10^{-19} \mathrm{C}$ in magnitude
(C) negative of the charge on an proton
(D) all of these
50. The velocity time graph of a ball moving along a straight line on a long table is given in figure. Find the force applied by surface of table on the ball to bring it to rest if mass of ball is 50 g .
(A) $7.825 \times 10^{-2} \mathrm{~N}$
(B) 7.825 N
(C) 0.7825 N
(D) none of these

51. If $2 A$ of current flows through a conductor, the charge that flows in one minute is $\qquad$ C.
(A) 12
(B) 120
(C) 60
(D) 16
52. A cylindrical object floats in water such that $\frac{3}{4}$ th of its volume is immersed in water. Its density is $\overline{\text { (A) } 250} \mathrm{~kg} \mathrm{~m}^{-3}$.
(A) 250
(B) 0.75
(C) 0.25
(D) 750
53. In the given figure the equivalent resistance between the points $A$ and $B$ is
(A) $8 \Omega$
(B) $6 \Omega$
(C) $4 \Omega$
(D) $2 \Omega$

54. A driver accelerates his car first at the rate of $1.8 \mathrm{~m} / \mathrm{s}^{2}$ and then at the rate of $1.2 \mathrm{~m} / \mathrm{s}^{2}$. The ratio of two forces exerted by the engine in the two cases will be
(A) $1: 2$
(B) $2: 1$
(C) $2: 3$
(D) $3: 2$

## CHEMISTRY - (PART - B)

This part contains 6 Multiple Choice Guestions number 55 to 60. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
55. Which of the following is thermosetting plastics?
(A) Poly Vinyl Chloride
(B) Nylon
(C) Melamine
(D) Terylene
56. The process of heating coal in the absence of air is called
(A) fractional distillation
(B) distillation
(C) destructive distillation
(D) none of these
57. Roasting is generally done in case of the following ores:
(A) oxide ores
(B) silicate ores
(C) sulphide ores
(D) carbonate ores
58. Monomeric units of bakelite are phenol and
(A) acetaldehyde
(B) formaldehyde
(C) acetone
(D) none of these
59. Which of the following can be used as a plasticizer?
(A) Coconut oil
(B) Mustard oil
(C) Castor oil
(D) Pine oil
60. Bone charcoal is used in sugar industry
(A) As paint
(B) for decolourising
(C) As reducing agent
(D) As an oxidising agent

## Space for Rough Work

## MATHEMATICS - (PART - C)

This part contains 6 Multiple Choice Questions number 61 to 66. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
61. A radio is sold for Rs. 990 at a profit of $10 \%$. What would have been the actual profit or loss on it, had it been sold for Rs. 890?
(A) Rs. 10 loss
(B) Rs. 10 profit
(C) Rs. 90 loss
(D) Rs. 90 profit
62. If the difference between the simple and compound interests on a sum of money for 2 years at $4 \%$ per annum is Rs. 80 , the sum is:
(A) Rs. 5000
(B) Rs. 50000
(C) Rs. 10000
(D) Rs. 1000
63. If I would have purchased 11 articles for Rs. 10 and sold all the articles at the rate of 10 for Rs. 11, the profit percent would have been:
(A) $10 \%$
(B) $11 \%$
(C) $21 \%$
(D) $100 \%$
64. $\left\{(-2)^{(-2)}\right\}^{(-2)}$ is equal to:
(A) 16
(B) 8
(C) -8
(D) -1
65. Diagonals of a rhombus are 18 cm and 24 cm respectively. Which of the following is its perimeter?
(A) 44 cm
(B) 56 cm
(C) 60 cm
(D) 72 cm
66. How many rational numbers exist between -5 and 5 ?
(A) 9
(B) 10
(C) 11
(D) infinite

## BIOLOGY - (PART - D)

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. From the options given below select the correct pair of plant disease, its causative agent and its mode of transmission.
(A) Citrus canker - Virus - Water
(B) Rust of wheat - Bacteria - Air
(C) Yellow vein mosaic of Bhindi - Virus - Insect
(D) Both (B) and (C)
68. To preserve jams and squashes from microorganisms, we used chemical preservatives as like:
(A) Sodium benzoate and Sodium metabisulphite
(B) Sodium peroxide
(C) Sodium bicarbonate
(D) Sodium hypochloride
69. Name the science of practicing farming:
(A) Genetics
(B) Biochemistry
(C) Agriculture
(D) Physiology
70. An important ingredient of rava (sooji), idlis and bhaturas is $\qquad$ .
(A) Cheese
(B) Milk
(C) Curd
(D) Butter
71. The functional unit of life is:
(A) Cell
(B) Nucleus
(C) Egg
(D) None of these
72. The management and care of farm animals by human for profit is known as
(A) Granary
(B) Animal husbandry
(C) Poultry farms
(D) Warehouse

## Recommended Time: 50 Minutes for Section - IV

## Section - IV

## PHYSICS - (PART - A)

This part contains 5 Multiple Choice Questions number 73 to 77. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
73. When a force of one Newton acts on a mass of 1 kg that is able to move freely, the object moves with
(A) speed of $1 \mathrm{~m} . / \mathrm{s}$
(B) speed of $1 \mathrm{~km} / \mathrm{s}$
(C) acceleration of $10 \mathrm{~m} / \mathrm{s}^{2}$
(D) acceleration of $1 \mathrm{~m} / \mathrm{s}^{2}$.
74. If two resistors of resistance $50 \Omega$ and $60 \Omega$ are connected in parallel across a battery. The ratio of potential difference across them is $\qquad$
C) $3 \cdot 4$
(D) $4: 3$
75. Which one of the following is a contact force?
(A) Force of gravity
(B) Force of friction
(C) Magnetic force
(D) Electrostatic force
76. $A$ and $B$ are two objects with masses 6 kg and 34 kg respectively.
(A) A has more inertia than $B$
(B) B has more inertia than A
(C) A and B are of the same inertia
(D) None of the above is true.
77. Three resistors are connected to a 10 V battery as shown in the given diagram. What is the current through the $2.0 \Omega$ resistor?
(A) 0.25 A
(B) 0.50 A
(C) 1.0 A
(D) 2.0 A


## CHEMISTRY - (PART - B)

This part contains 5 Multiple Choice Questions number 78 to 82. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
78. Which of the following is a macromolecule but NOT a polymer?
(A) Chlorophyll
(B) Protein
(C) Starch
(D) Cellulose
79. The reducing agent in thermite process is
(A) Al
(B) Mg
(C) $\mathrm{BaO}_{2}$
(D) $\mathrm{MnO}_{2}$
80. Cinnabar is an ore of which metal?
(A) Hg
(B) Pb
(C) Fe
(D) Cu
81. Amide linkage is present in
(A) Terylene
(B) Poly vinyl chloride
(C) Rayon
(D) Nylon
82. The reactivities of iron, magnesium, sodium and zinc towards water are in the order
(A) $\mathrm{Fe}>\mathrm{Mg}>\mathrm{Na}>\mathrm{Zn}$
(B) $\mathrm{Zn}>\mathrm{Na}>\mathrm{Mg}>\mathrm{Fe}$
(C) $\mathrm{Na}>\mathrm{Mg}>\mathrm{Zn}>\mathrm{Fe}$
(D) $\mathrm{Mg}>\mathrm{Na}>\mathrm{Fe}>\mathrm{Zn}$

## MATHEMATICS - (PART - C)

This part contains 5 Multiple Choice Guestions number 83 to 87. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.
83. In the quadrilateral $A B C D$, the line segments bisecting $\angle C$ and $\angle D$ meet at $E$. Then the correct statement is :
(A) $\angle \mathrm{A}+\angle \mathrm{B}=\angle \mathrm{CED}$
(B) $\angle A+\angle B=2 \angle C E D$
(C) $\angle \mathrm{A}+\angle \mathrm{B}=3 \angle \mathrm{CED}$

(D) none of these
84. A sum of money doubles itself in 4 years at compound interest. It will amount to 8 times of itself at the same rate of interest in:
(A) 18 years
(B) 12 years
(C) 16 years
(D) 24 years
85. Simplify: $\frac{\left(x^{a+b}\right)^{2}\left(x^{b+c}\right)^{2}\left(x^{c+a}\right)^{2}}{\left(x^{a} x^{b} x^{c}\right)^{4}}$
(A) $2 x$
(B) 0
(C) 1
(D) $a+b+c$
86. $\frac{a^{-1}}{a^{-1}+b^{-1}}+\frac{a^{-1}}{a^{-1}-b^{-1}}=$ ?
(A) $\frac{b^{2}}{b^{2}-a^{2}}$
(B) $\frac{b^{2}}{b^{2}+a^{2}}$
(C) $\frac{2 b^{2}}{b^{2}+a^{2}}$
(D) $\frac{2 b^{2}}{b^{2}-a^{2}}$
87. $(a-b)^{3}+(b-c)^{3}+(c-a)^{3}=$
(A) $(a-b)(b-c)(c-a)$
(B) $3(a-b)(b-c)(c-a)$
(C) $\frac{1}{3}(a-b)(b-c)(c-a)$
(D) $3(a-b)^{3}(b-c)^{3}(c-a)^{3}$

## PHYSICS - (PART - D)

This part contains 3 Numerical Based Questions number 88 to 90. Each question has Single Digit Answer 0 to 9.
88. Two particles $A$ and $B$ of masses 20 g and 30 g respectively are at rest at a certain time. Because of the forces exerted by them on each other, the particles start moving. At a given instant, particle $A$ is found to move towards east with a velocity of $6 \mathrm{~cm} / \mathrm{sec}$. What is the velocity of particle $B$ at this instant (in cm/s)?
89. What is the maximum resistance which can be made using five resistors each of $1 / 5 \Omega$ ?
90. A given volume of a liquid weighs the same as water of double volume weighs. The relative density of the liquid is

## CHEMISTRY - (PART - E)

This part contains 3 Numerical Based Questions number 91 to 93. Each question has Single Digit Answer 0 to 9.
91. Number of possible reactions out of the following is:
$\mathrm{Cu}+2 \mathrm{AgNO}_{3} \longrightarrow 2 \mathrm{Ag}+\mathrm{Cu}\left(\mathrm{NO}_{3}\right)_{2}$
$\mathrm{Cu}+\mathrm{ZnSO}_{4} \longrightarrow \mathrm{CuSO}_{4}+\mathrm{Zn}$
$\mathrm{Mg}+\mathrm{CuSO}_{4} \longrightarrow \mathrm{MgSO}_{4}+\mathrm{Cu}$
$\mathrm{Zn}+\mathrm{PbSO}_{4} \longrightarrow \mathrm{ZnSO}_{4}+\mathrm{Pb}$
92. The given reaction represents formation of iron from its oxide:
$\mathrm{Fe}_{2} \mathrm{O}_{3}+x \mathrm{C} \longrightarrow 2 \mathrm{Fe}+x \mathrm{CO}$
Here, $x$ is:
93. Amongst the following, the total number of thermoplastics is polyester, bakelite, polythene, PVC, Teflon, PAN, nylon 6, melamine-formaldehyde resin

## MATHEMATICS - (PART - F)

This part contains 3 Numerical Based Questions number 94 to 96. Each question has Single Digit Answer 0 to 9.
94. If $a+b+c=0$, then find the value of $\left(\frac{a+b}{c}+\frac{b+c}{a}+\frac{c+a}{b}\right)\left(\frac{a}{b+c}+\frac{b}{c+a}+\frac{c}{a+b}\right)$
95. If $a^{2}+b^{2}+c^{2}+3=2(a+b+c)$ then find the value of $(a+b+c)$
96. If $x=1+\frac{1}{1+\frac{1}{1+\frac{1}{1+\frac{1}{2}}}}$, then find the value of $2 x+\frac{7}{4}$

## FIIT] EE SAMPLE PAPER - 2020 (FIITJ EE Talent Reward Exam-2020)

for students presently in
Class 8 (Paper 2) ANSWERS

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

