

# FIITJEE SAMPLE PAPER

(FIITJEE Talent Reward Exam - 2021)

for students presently in

## Class 8 (Paper 2)



Time: 3 Hours (1:45 pm – 4:45 pm)

Code 8008

Maximum Marks: 272

### 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 55 Minutes on Section-I, 45 Minutes on Section-II, 40 Minutes on Section-III and 40 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 12	+1	0
	CHEMISTRY (PART-B)	13 to 24	+1	0
	MATHEMATICS (PART-C)	25 to 36	+1	0
	BIOLOGY (PART-D)	37 to 48	+1	0
SECTION – II	PHYSICS (PART-A)	49 to 52	+4	-1
	CHEMISTRY (PART-B)	53 to 56	+4	-1
	MATHEMATICS (PART-C)	57 to 60	+4	-1
	BIOLOGY (PART-D)	61 to 68	+4	-1
SECTION – III	PHYSICS (PART-A)	69 to 74	+3	-1
	CHEMISTRY (PART-B)	75 to 80	+3	-1
	MATHEMATICS (PART-C)	81 to 86	+3	-1
	BIOLOGY (PART-D)	87 to 92	+3	-1
SECTION – IV	PHYSICS (PART-A)	93 to 97	+3	0
	CHEMISTRY (PART-B)	98 to 102	+3	0
	MATHEMATICS (PART-C)	103 to 107	+3	0
	PHYSICS (PART-D)	108 to 110	+3	0
	CHEMISTRY (PART-E)	111 to 113	+3	0
	MATHEMATICS (PART-F)	114 to 116	+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. 108 to 116.

Note: Please check this Question Paper contains all 116 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 **108 to 116**

Numerical based questions single digit answer 0 to 9

**Example 1:**

If answer is 6.

Correct method:

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

**Example 2:**

If answer is 2.

Correct method:

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

SAMPLE PAPER

## Recommended Time: 55 Minutes for Section – I

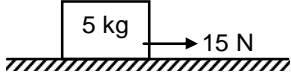
### Section – I

### PHYSICS – (PART – A)

*This part contains 12 Multiple Choice Questions number 1 to 12. 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 \_\_\_\_\_.  
 (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)  $\frac{10}{9.3}$  N (B)  $\frac{9.3}{10}$  N  
 (C) 0.7 N (D) (10 + 9.3)N
3. \_\_\_\_\_ is the S.I. unit of density of an object.  
 (A)  $\text{kg m}^{-3}$  (B)  $\text{g cm}^{-3}$   
 (C)  $\text{g cm}^3$  (D)  $\text{kg cm}^3$
4. Mass per unit volume of water is \_\_\_\_\_.  
 (A)  $1 \text{ kg/m}^3$  (B)  $1000 \text{ kg/m}^3$   
 (C)  $1 \text{ g/cm}^3$  (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)  $V = \frac{I}{R}$  (B)  $I = \frac{V}{R}$   
 (C)  $R = VI$  (D)  $V = \frac{R}{I}$

**Space for Rough Work**

7. A liquid has density 1.5 g/cc. 50 cc of it is mixed with 30 cc of water. What will be the density of mixture solution?  
(A) 13.125 g/cc (B) 1.3125 g/cc  
(C) 1.11 g/cc (D) 2.12 g/cc
8. 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  $g = 10 \text{ m/s}^2$ )  
(A)  $3 \text{ m/s}^2$  (B)  $2 \text{ m/s}^2$   
(C)  $5 \text{ m/s}^2$  (D)  $0.5 \text{ m/s}^2$
- 
9. 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
10. 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.
11. Pressure at a point inside a liquid does not depend on  
(A) The depth of the point below the surface of the liquid  
(B) The nature of the liquid  
(C) The acceleration due to gravity at that point  
(D) the shape of the containing vessel
12. During electrorefining of metal the impure metal get joined with \_\_\_\_\_ terminal of battery.  
(A) positive (B) negative  
(C) either positive or negative (D) none of those

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**Space for Rough Work**

## CHEMISTRY – (PART – B)

This part contains **12 Multiple Choice Questions** number **13 to 24**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

13. An element X forms an oxide XO which turns red litmus blue. Identify X.  
 (A) A metal (B) A non-metal  
 (C) A metalloid (D) A noble gas
14. Coal gas is a mixture of  
 (A)  $\text{CH}_4 + \text{H}_2 + \text{CO}$  (B)  $\text{C}_4\text{H}_{10} + \text{H}_2$   
 (C)  $\text{C}_4\text{H}_{10} + \text{H}_2\text{O}$  (D)  $\text{C}_2\text{H}_6 + \text{H}_2 + \text{O}_2$
15. Which polymer is known as synthetic wool?  
 (A) nylon (B) acrylic  
 (C) polyester (D) bakelite
16.  $\text{C}_{12}\text{H}_{22}\text{O}_{11} \xrightarrow[\text{H}_2\text{SO}_4]{\text{Conc.}} 12\text{C} + 11\text{H}_2\text{O}$   
 Which of the following is obtained in the above reaction?  
 (A) Animal charcoal (B) Sugar charcoal  
 (C) Coke (D) Wood charcoal
17. Gasoline is obtained from crude petroleum oil by its  
 (A) fractional distillation (B) vacuum distillation  
 (C) steam distillation (D) pyrolysis
18. 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

**Space for Rough Work**

19. Range of carbon atoms in gasoline is:  
(A)  $C_{15} - C_{20}$  (B)  $C_2 - C_7$   
(C)  $C_5 - C_{12}$  (D)  $C_{13} - C_{15}$
20. Natural gas mainly contains  
(A) ethane (B) butane  
(C) propane (D) methane
21. Which of the following have branched structure?  
(A) Low density polythene (B) High density polythene  
(C) Poly Vinyl Chloride (D) Cellulose
22. Which of the following is **NOT** correct regarding terylene?  
(A) Step-growth polymer (B) Synthetic fibre  
(C) Condensation polymer (D) Thermosetting plastic
23. Boron is  
(A) metal (B) metalloid  
(C) non-metal (D) alkali
24. 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

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*Space for Rough Work*

**MATHEMATICS – (PART – C)**

This part contains 12 Multiple Choice Questions number 25 to 36. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

25. 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
26.  $5x^2 - 19x + 12 =$   
(A)  $(5x - 4)(x - 3)$  (B)  $(5x - 4)(x + 3)$   
(C)  $(x + 2)(5x - 1)$  (D)  $(5x - 6)(x - 1)$
27. 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
28. 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%
29. If  $25^{n-1} + 100 = 5^{2n-1}$ , then the value of 'n' is:  
(A) 5 (B) 2  
(C) -2 (D) -3
30. 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)  $4\sqrt{5}$

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**Space for Rough Work**

31. If  $a^3 - b^3 = 56$  and  $a - b = 2$ , then value of  $(a^2 + b^2)$  will be:  
(A) 48 (B) 20  
(C) 22 (D) 5
32. If  $27^{2x-1} = (243)^3$ , then the value of 'x' is :  
(A) 3 (B) 6  
(C) 7 (D) 9
33. 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)  $82\frac{2}{6}\%$
34. Diagonals of a rectangle ABCD meet at O. If AC = 14cm then BO is equal to  
(A) 6 cm (B) 7 cm  
(C) 8 cm (D) 14 cm
35. Diagonals of which of the following quadrilaterals do not bisect each other?  
(A) Parallelogram (B) Trapezium  
(C) Square (D) Rectangle
36. What is the multiplicative inverse of  $a - \frac{1}{a}$ ?  
(A)  $a + \frac{1}{a}$  (B)  $\frac{1}{a} - a$   
(C)  $\frac{a}{a-1}$  (D)  $\frac{a}{a^2-1}$

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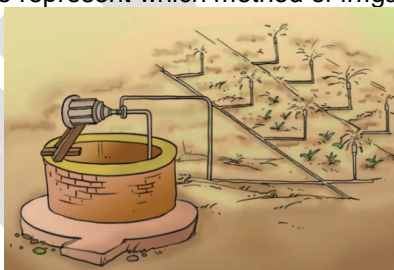
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## BIOLOGY – (PART – D)

This part contains **12 Multiple Choice Questions** number **37 to 48**. Each question has **4 choices (A), (B), (C) and (D)**, out of which **ONLY ONE** is correct.

37. Manual removal of weeds can be done with the help of \_\_\_\_\_.
- (A) Plough (B) Khurpi  
(C) Seed drill (D) Pump
38. 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
39. Cilia are found in:
- (A) Paramecium (B) Euglena  
(C) Amoeba (D) Chlamydomonas
40. Which organ does hepatitis affect?
- (A) Heart (B) Brain  
(C) Liver (D) Kidneys
41. Animal cell do not have:
- (A) Nucleus (B) Plasma membrane  
(C) Plastid (D) Mitochondria
42. The below mentioned figure represent which method of irrigation?



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

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*Space for Rough Work*

43. The sources of milk are:  
(A) Cow (B) She – camel  
(C) Buffalo (D) All of these
44. Which of the following combination of nutrients are example of Macronutrients?  
(A) Nitrogen, Phosphorus, Molybdenum (B) Potassium, Calcium, Sulphur  
(C) Zinc, Calcium, Sulphur (D) Nitrogen, Iron, Zinc
45. The excessive use of fertilizers has made the soil \_\_\_\_\_.  
(A) more fertile (B) less fertile  
(C) porous (D) provide humus
46. Weeds can be removed by using:  
(A) Pesticides (B) Fungicides  
(C) Weedicides (D) Bactericides
47. Mark the correct statement:  
(A) Fish is good in health & many people consume fish as a major part of their diet  
(B) Dried neem leaves are used for storing food grains at home  
(C) Both (A) and (B)  
(D) Cutting of crops after it is mature is called fallowing
48. The term cell is not applied for:  
(A) Algae (B) Fungi  
(C) Virus (D) Bacteria

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*Space for Rough Work*

**Recommended Time: 45 Minutes for Section – II****Section – II****PHYSICS – (PART – A)**

*This part contains 4 Multiple Choice Questions number 49 to 52. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.*

49. A kilowatt hour is a unit of  
(A) energy (B) power  
(C) electric charge (D) electric current
50. Frictional force can't be measured in  
(A) kg wt (B) newton  
(C) dyne (D) kg m/s
51. Aluminium has a density of 2.7 g/cc. The mass of 15 cc of aluminium is  
(A) 45 g (B) 40.5 g  
(C) 80 g (D) 100 g
52. 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)  $\frac{w_1 + w_2}{2}$

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*Space for Rough Work*

## CHEMISTRY – (PART – B)

*This part contains 4 Multiple Choice Questions number 53 to 56. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.*

53. Which of the following is **NOT** an example of addition polymerization?  
(A) Teflon (B) Polythene  
(C) Nylon (D) PVC
54. An alloy is  
(A) a compound (B) a heterogeneous mixture  
(C) a homogeneous mixture (D) an element
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

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*Space for Rough Work*

**MATHEMATICS – (PART – C)**

This part contains 4 Multiple Choice Questions number 57 to 60. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

57. If  $3x = 5y = 4z$  then  $x : y : z$  is equals to:  
(A) 9 : 12 : 16  
(B) 20 : 12 : 15  
(C) 15 : 10 : 9  
(D) 8 : 5 : 3
58. The rational form of  $2.\bar{6}$  is  
(A)  $\frac{1}{3}$   
(B)  $\frac{7}{3}$   
(C)  $\frac{8}{3}$   
(D)  $\frac{5}{3}$
59. If  $x^2 - 2x - 1 = 0$ , then  $x^2 - \frac{1}{x^2} = ?$   
(A)  $4\sqrt{2}$   
(B) 2  
(C)  $\sqrt{6}$   
(D)  $2\sqrt{2}$
60. If  $\frac{2a+b}{a+4b} = 3$ , then  $\frac{a+b}{a+2b} =$   
(A)  $\frac{5}{9}$   
(B)  $\frac{2}{7}$   
(C)  $\frac{10}{9}$   
(D)  $\frac{10}{7}$

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Space for Rough Work

## BIOLOGY – (PART – D)

This part contains **8 Multiple Choice Questions** number **61 to 68**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

61. Chlorophyll is present in \_\_\_\_\_ of leaves.  
(A) Vacuoles (B) Nucleus  
(C) Golgi bodies (D) Chloroplast
62. Rabi crop is harvested in:  
(A) January (B) March  
(C) October (D) September
63. Yeast is grown on natural sugars present in grains like:  
(A) Wheat (B) Rice  
(C) Barley (D) All of these
64. Certain bacteria convert compounds of nitrogen present in the soil into \_\_\_\_\_ gas which is released to the atmosphere.  
(A) Sulphur (B) Carbon-di-oxide  
(C) Oxygen (D) Nitrogen
65. Harvesting is either done manually by \_\_\_\_\_ or by a machine called \_\_\_\_\_.  
(A) Hoe, Cultivator (B) Sickle, Plough  
(C) Sickle, Harvester (D) Hoe, Plough
66. A worldwide campaign against \_\_\_\_\_ has finally led to its eradication from most parts of the world.  
(A) Chicken pox (B) Small pox  
(C) Cholera (D) Tuberculosis
67. Food is converted into energy in:  
(A) Nucleus (B) Nucleolus  
(C) Chloroplast (D) Mitochondria
68. Before storing grains, they are properly dried in the sun to reduce the moisture in them. This prevents the attack by:  
(A) Insect pests (B) Bacteria  
(C) Fungi (D) All of these

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**Space for Rough Work**

## Recommended Time: 40 Minutes for Section – III

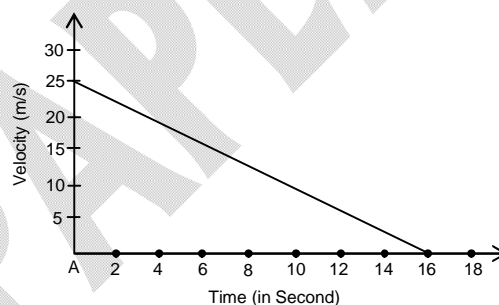
### Section – III

## PHYSICS – (PART – A)

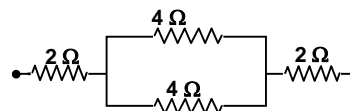
This part contains 6 Multiple Choice Questions number 69 to 74. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

69. The charge on an electron is equal to  
 (A) magnitude of charge on proton  
 (B)  $1.6 \times 10^{-19}$  C in magnitude  
 (C) negative of the charge on an proton  
 (D) all of these

70. 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)  $7.825 \times 10^{-2}$  N  
 (B) 7.825 N  
 (C) 0.7825 N  
 (D) none of these



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



74. A driver accelerates his car first at the rate of  $1.8 \text{ m/s}^2$  and then at the rate of  $1.2 \text{ m/s}^2$ . 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

**Space for Rough Work**

## CHEMISTRY – (PART – B)

This part contains 6 Multiple Choice Questions number 75 to 80. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

75. Roasting is generally done in case of the following ores:  
(A) oxide ores (B) silicate ores  
(C) sulphide ores (D) carbonate ores
76. Monomeric units of bakelite are phenol and  
(A) acetaldehyde (B) formaldehyde  
(C) acetone (D) none of these
77. Which of the following can be used as a plasticizer?  
(A) Coconut oil (B) Mustard oil  
(C) Castor oil (D) Pine oil
78. Bone charcoal is used in sugar industry  
(A) As paint (B) for decolourising  
(C) As reducing agent (D) As an oxidising agent
79. The frothing agent used in froth floatation process is:  
(A) Mustard oil (B) Pine oil  
(C) Coconut oil (D) Olive oil
80. Ethyl mercaptan is added to LPG  
(A) to give colour to it (B) to give volume to it  
(C) to give smell to it (D) to make it liquid

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*Space for Rough Work*



## MATHEMATICS – (PART – C)

This part contains 6 Multiple Choice Questions number 81 to 86. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

81. 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
82. 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
83. 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%
84.  $\{(-2)^{(-2)}\}^{(-2)}$  is equal to:  
(A) 16 (B) 8  
(C) -8 (D) -1
85. Diagonals of a rhombus are 18cm and 24cm respectively. Which of the following is its perimeter?  
(A) 44 cm (B) 56 cm  
(C) 60 cm (D) 72 cm
86. How many rational numbers exist between -5 and 5?  
(A) 9 (B) 10  
(C) 11 (D) infinite

*Space for Rough Work*

## BIOLOGY – (PART – D)

This part contains 6 Multiple Choice Questions number 87 to 92. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

87. 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)
88. To preserve jams and squashes from microorganisms, we use chemical preservatives like:  
(A) Sodium benzoate and Sodium metabisulphite  
(B) Sodium peroxide  
(C) Sodium bicarbonate  
(D) Sodium hypochloride
89. Name the science of practicing farming:  
(A) Genetics  
(B) Biochemistry  
(C) Agriculture  
(D) Physiology
90. An important ingredient of rava (sooji), idlis and bhaturas is \_\_\_\_\_.  
(A) Cheese  
(B) Milk  
(C) Curd  
(D) Butter
91. The functional unit of life is:  
(A) Cell  
(B) Nucleus  
(C) Egg  
(D) None of these
92. The management and care of farm animals by human for profit is known as:  
(A) Granary  
(B) Animal husbandry  
(C) Poultry farms  
(D) Warehouse

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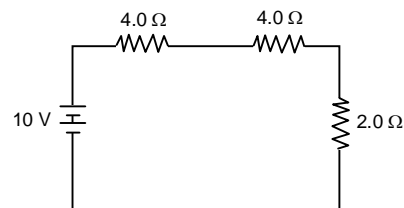
## Recommended Time: 40 Minutes for Section – IV

### Section – IV

## PHYSICS – (PART – A)

*This part contains 5 Multiple Choice Questions number 93 to 97. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

93. 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 m./s (B) speed of 1 km/s  
 (C) acceleration of  $10 \text{ m/s}^2$  (D) acceleration of  $1 \text{ m/s}^2$ .
94. 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 \_\_\_\_\_.  
 (A) 1 : 1 (B) 2 : 1  
 (C) 3 : 4 (D) 4 : 3
95. Which one of the following is a contact force?  
 (A) Force of gravity (B) Force of friction  
 (C) Magnetic force (D) Electrostatic force
96. 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 these is true.
97. 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



*Space for Rough Work*

## CHEMISTRY – (PART – B)

This part contains 5 Multiple Choice Questions number 98 to 102. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

98. Which of the following is a macromolecule but **NOT** a polymer?  
(A) Chlorophyll (B) Protein  
(C) Starch (D) Cellulose
99. The reducing agent in thermite process is  
(A) Al (B) Mg  
(C) BaO<sub>2</sub> (D) MnO<sub>2</sub>
100. Cinnabar is an ore of which metal?  
(A) Hg (B) Pb  
(C) Fe (D) Cu
101. Amide linkage is present in  
(A) Terylene (B) Poly vinyl chloride  
(C) Rayon (D) Nylon
102. The reactivities of iron, magnesium, sodium and zinc towards water are in the order  
(A) Fe > Mg > Na > Zn (B) Zn > Na > Mg > Fe  
(C) Na > Mg > Zn > Fe (D) Mg > Na > Fe > Zn

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*Space for Rough Work*



## PHYSICS – (PART – D)

*This part contains 3 Numerical Based Questions number 108 to 110. Each question has Single Digit Answer 0 to 9.*

108. 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 cm/sec. What is the velocity of particle B at this instant (in cm/s)?
109. What is the maximum resistance which can be made using five resistors each of  $1/5 \Omega$ ?
110. A given volume of a liquid weighs the same as water of double volume weighs. The relative density of the liquid is

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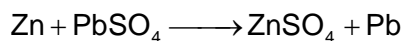
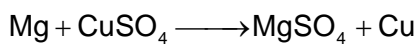
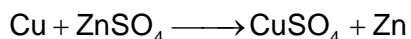
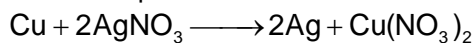
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SAMPLE PAPER

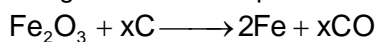
## CHEMISTRY – (PART – E)

*This part contains 3 Numerical Based Questions number 111 to 113. Each question has Single Digit Answer 0 to 9.*

111. Number of possible reactions out of the following is:



112. The given reaction represents formation of iron from its oxide:



Here, x is:

113. Amongst the following, the total number of thermoplastics is polyester, bakelite, polythene, PVC, Teflon, PAN, nylon 6, melamine-formaldehyde resin

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*Space for Rough Work*

**MATHEMATICS – (PART – F)**

**This part contains 3 Numerical Based Questions number 114 to 116. Each question has Single Digit Answer 0 to 9.**

114. If  $a + b + c = 0$ , then find the value of  $\left(\frac{a+b}{c} + \frac{b+c}{a} + \frac{c+a}{b}\right)\left(\frac{a}{b+c} + \frac{b}{c+a} + \frac{c}{a+b}\right)$

115. If  $a^2 + b^2 + c^2 + 3 = 2(a + b + c)$  then find the value of  $(a + b + c)$

116. If  $x = 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{2}}}}$ , then find the value of  $2x + \frac{7}{4}$

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*Space for Rough Work*



# FIITJEE SAMPLE PAPER – 2021

(FIITJEE Talent Reward Exam - 2021)

for students presently in

**Class 8 (Paper 2)**

## ANSWERS

1.	B	2.	C	3.	A	4.	D
5.	D	6.	B	7.	B	8.	B
9.	D	10.	A	11.	D	12.	A
13.	A	14.	A	15.	B	16.	B
17.	A	18.	C	19.	C	20.	D
21.	A	22.	D	23.	B	24.	A
25.	D	26.	A	27.	B	28.	D
29.	B	30.	B	31.	B	32.	A
33.	A	34.	B	35.	B	36.	D
37.	B	38.	C	39.	A	40.	C
41.	C	42.	B	43.	D	44.	B
45.	B	46.	C	47.	C	48.	C
49.	A	50.	D	51.	B	52.	C
53.	C	54.	C	55.	C	56.	C
57.	B	58.	C	59.	A	60.	C
61.	D	62.	B	63.	D	64.	D
65.	C	66.	B	67.	D	68.	D
69.	D	70.	A	71.	B	72.	D
73.	B	74.	D	75.	C	76.	B
77.	C	78.	B	79.	B	80.	C
81.	A	82.	B	83.	C	84.	A
85.	C	86.	D	87.	C	88.	A
89.	C	90.	C	91.	A	92.	B
93.	D	94.	A	95.	B	96.	B
97.	C	98.	A	99.	A	100.	A
101.	D	102.	C	103.	B	104.	B
105.	C	106.	D	107.	B	108.	4
109.	1	110.	2	111.	3	112.	3
113.	6	114.	9	115.	3	116.	5