

FIITJEE COMMON TEST

Applicable for Class VIII

N S E J S

PHASE – 5 (X LOT)

SET–A

Paper Code

Time: 1:30 Hours

Maximum Marks: 180

A. Question Paper Format

1. The question paper consists of 4 **parts** (Physics -**Section-I**, Chemistry - **Section-II**, Mathematics-**Section-III** and Biology- IV) and each part consists of **four sections**.
2. **Each Section** contains **15** multiple choice questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **only one is correct**.

B. Marking scheme:

1. For each question in **Section I, II, III & IV**, you will be awarded **3 marks** if you darken only the bubble corresponding to the correct answer and **zero mark** if no bubbles are darkened. In all other cases, **minus one (-1) mark** will be awarded.

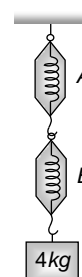
Enrolment No. :

Name :

Batch : Date:.....

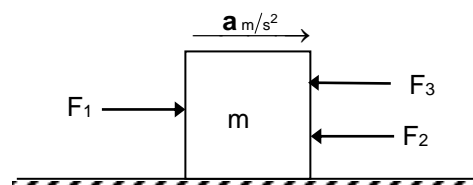
SECTION – I PHYSICS

1. A block of mass 4 kg is suspended through two light spring balances A and B. Then A and B will read respectively
 (A) 4 kg and zero kg
 (B) Zero kg and 4 kg
 (C) 4 kg and 4 kg
 (D) 2 kg and 2 kg



1. C,
 2. To avoid slipping while walking on ice, one should take smaller steps because of the
 (A) Friction of ice is large (B) Larger normal reaction
 (C) Friction of ice is small (D) Smaller normal reaction
 2. C,
 3. The pressure at the bottom of a tank containing a liquid does not depend on
 (A) Acceleration due to gravity (B) Height of the liquid column
 (C) Area of the bottom surface (D) Nature of the liquid
 3. C,
 4. When a horse pulls a cart, the force that helps the horse to move forward is the force exerted by
 (A) the cart on the horse (B) the ground on the horse
 (C) the ground on the cart (D) the horse on the ground
 4. B,

5. From the figure, if a is the acceleration F_1 , F_2 , F_3 are three forces acting on a body, then
 (A) $F_1 = (F_2 + F_3)$
 (B) $F_1 > (F_2 + F_3)$
 (C) $F_1 < (F_2 + F_3)$
 (D) none of these



5. B,
 6. The pressure exerted by a liquid of density ρ at a depth h is given by
 (A) $\frac{h}{\rho g}$ (B) $\frac{h}{\rho}$
 (C) hg (D) $h\rho g$
 6. D
 7. P and Q are two objects with masses 5 kg and 30 kg respectively. Then
 (A) P has more Inertia than Q (B) Q has more inertia than P
 (C) P and Q have the same inertia (D) Neither P nor Q has any inertia.
 7. B,
 8. Force can
 (A) Change the speed of a body (B) Change the direction of motion of a body.
 (C) Change the shape of a body (D) All of the above
 8. D,

9. By applying a force of 1 N, one can hold a body whose mass is approximately equal to
(A) 100 mg (B) 100 g
(C) 1 kg (D) 10 kg
9. B,
10. The mass of an object is 60 kg on the earth. What would be its mass if it is taken to the surface of the moon ?
(A) 60 kg (B) 10 kg
(C) 6 kg (D) 360 kg
10. A,
11. Pressure at a point in the liquid is :
(A) same in all directions (B) greater in the upward direction
(C) greater in the downward direction (D) none of these
11. A,
12. If the weight of the body is equal to the buoyant force then body:
(A) sinks (B) rises
(C) floats (D) first floats and then sinks
12. C,
13. When a body is weighted in a liquid, the loss in its weight depends upon
(A) Volume of the body (B) Mass of the body
(C) Shape of the body (D) CG of the body
13. A,
14. What will be the velocity of an object of mass 6 kg if its momentum is 66.3 kg m/s?
(A) 397.8 m/s (B) 11.5 m/s
(C) 11.05 m/s (D) none of these
14. C,
15. 10 Dyne is equal to
(A) 0.001 N (B) 1000 N
(C) 100 N (D) 0.0001 N
15. D,

Space for rough solution

SECTION – II CHEMISTRY

1. The monomers used in the manufacture of nylon-6, 6 are:
(A) sebacic acid and hexamethylene diamine
(B) adipic acid and butadiene
(C) sebacic acid and butadiene
(D) adipic acid and hexamethylene diamine
1. D,
2. Which one is a protein fibre?
(A) Cotton (B) Rayon (C) Silk (D) Polyester
2. C,
3. Which of the following is a biodegradable polymer?
(A) PVC (B) Nylon-6 (C) Cellulose (D) Polythene
3. C,
4. Buna-S is polymer of
(A) butadiene only (B) butadiene and nitril
(C) styrene only (D) butadiene and styrene
4. D,
5. Orlon has a unit
(A) isoprene (B) acrolein
(C) glycol (D) vinylcyanide
5. D,
6. An amalgam of metal has which other element?
(A) C (B) Ag (C) Mg (D) Hg
6. D,
7. A metal, which melts on the palm
(A) potassium (B) sodium
(C) gallium (D) zinc
7. C,
8. The process of protecting iron by coating with Zinc.
(A) smelting (B) galvanisation
(C) rusting (D) corrosion
8. B,
9. Metals generally form
(A) basic oxides (B) acidic oxides
(C) neutral oxides (D) none
9. A,
10. The tip of the lead pencil is made of
(A) lead (B) graphite (C) zinc (D) charcoal
10. B,
11. Cross linking is present in :
(A) Thermoplastics (B) Thermosetting plastics
(C) Natural fibres (D) None

11. B,
12. The following metal reacts with dilute HCl to liberate hydrogen gas :
(A) Copper (B) Silver (C) Gold (D) Zinc
12. D,
13. Electrolytic reduction process is used for the extraction of
(A) alkali metals (B) alkaline earth metals
(C) aluminium (D) all of these
13. D,
14. Froth floatation process is used for the
(A) oxide ores (B) Sulphide ores
(C) chloride ores (D) all of these
14. B,
15. The fabric made up of repeating units of a chemical with fruity odour is called
(A) PVC (B) Acrylic
(C) Polyesters (D) Wood
15. C,

Space for rough solution

SECTION – III MATHEMATICS

1. From a ribbon of $50\frac{2}{5}$ m long, two pieces of equal length are cut. Out of one piece nine equal parts are cut and divided among student Rest one piece is with teacher. What is length of piece with teacher and students respectively (in metre).

- (A) $\frac{126}{5}, \frac{14}{5}$ (B) $\frac{126}{5}, \frac{5}{4}$ (C) $\frac{14}{5}, \frac{126}{5}$ (D) $\frac{5}{126}, \frac{14}{5}$

1. A,

2. Evaluate the value of x if $\sqrt{10 + \sqrt{25 + \sqrt{x + \sqrt{154 + \sqrt{225}}}}} = 4$

- (A) 110 (B) 108 (C) 100 (D) 114

2. B,

3. If $\frac{x + 2 \quad 2x - 3 \quad - 2x^2 + 6}{x - 5} = 2$ then the value of x is equal to:

- (A) 5 (B) 7
(C) 10 (D) 11

3. C,

4. If $\sqrt{0.0000576} = 0.0024$, the square root of 57,60,000 is _____

- (A) $\frac{1}{24}$ (B) 24 (C) 240 (D) 2400

4. D,

5. If one fifth of a number exceeds one seventh of it by 10, then the number is

- (A)350 (B)175
(C)165 (D)150

5. B,

6. Find out the incorrect statement

- (A) Between two rational numbers there are infinite rational numbers
(B) Between two rational numbers there always lies atleast an integer
(C) The smallest value of b so that $(28812 \div b)$ is a perfect square is 3.
(D) A linear equation in x can have only one solution

6. B,

7. How many rational numbers exist between -5 and 5?

- (A)9 (B)10
(C) 11 (D) infinite

7. D,

8. The value of $1 + 3 + 5 + 7 + 9 + \dots + 99 =$

- (A) 2500 (B) 9801
(C)10000 (D) None of these

8. A,

9. A number when added to its two-thirds is equal to 35. Then, the number is
 (A) 16 (B) 21
 (C) 12 (D) 18
9. B,
10. The collection of non-negative integers will be the same as the collection of
 (A) Natural numbers (B) Positive Integers (C) Whole numbers (D) None of these
10. C,
11. In a certain office, $\frac{1}{3}$ of the workers are women, $\frac{1}{2}$ of the women are married and $\frac{1}{3}$ of the married women have children, if $\frac{3}{4}$ of the men are married and $\frac{2}{3}$ of the married men have children, what part of the workers are without children ?
 (A) $\frac{5}{18}$ (B) $\frac{4}{9}$ (C) $\frac{11}{18}$ (D) $\frac{17}{36}$
11. C,
12. The simplified form of $\sqrt{125} + \sqrt{245} - \sqrt{845}$ is
 (a) $\sqrt{15}$ (b) $2\sqrt{5}$ (c) $-\sqrt{5}$ (d) $-2\sqrt{5}$
12. C,
13. A number has two digits. The unit digit is 3 times the tens digit. If the digits are reversed, the new number thus formed is 36 more than the original number. Then, the original number is equal to:
 (A) 62 (B) 26
 (C) 31 (D) 13
13. B,
14. If $2(3x - 5) - 4 = 3(x - 2) + 5$, then $x = \dots\dots\dots$
 (A) $\frac{11}{3}$ (B) $\frac{15}{2}$
 (C) $\frac{13}{3}$ (D) $\frac{9}{2}$
14. C,
15. If $\sqrt{1 + \frac{55}{729}} = 1 + \frac{x}{27}$, then the value of x is
 (a) 1 (b) 3 (c) 5 (d) 7
15. A,

Space for rough solution

SECTION – IV BIOLOGY

1. Bio-fortified crops are:

(A) crop with increased yield	(B) crop with disease resistance
(C) herbicide resistant crops	(D) crops with high nutritive value
1. D,
2. Mycorrhiza is

(A) a bio fertilizer	(B) a manure
(C) an association of root with fungi	(D) an association of root with bacteria
2. C,
3. Harrow is an implement used to remove

(A) Weeds	(B) Crops plant
(C) Stones	(D) rocks
3. A,
4. Which of the following is the smallest microorganism?

(A) Algae	(B) Protozoan
(C) bacterium	(D) Virus
4. D,
5. The chemical 2,4-D is used as

(A) Pesticide	(B) Weedicide
(C) Insecticide	(D) Homicide
5. B,
6. Which of the following option is not true about the viruses?

(A) Viruses have either DNA or RNA as these genetic material	(B) Viruses will not infect bacteria, fungi and algae
(C) Virus use host machinery to produce their own proteins	(D) Virus are useful in the preparation of vaccines
6. B,
7. BLACK POISON is :

(A) Aluminium phosphide	(B) Potassium nitrate
(C) Lead	(D) Organophosphate
7. A,
8. Weeds not only use nutrients from soil but also

(i) Harmful for some organisms including human beings	
(ii) Useful for the crop and harmful for human beings	
(iii) Harmful to the crops and some animals	
(iv) Crop specific	
(A) (i), (iii) and (iv)	(B) (ii), (iii) and (iv)
(C) (i), (ii) and (iii)	(D) (i), (ii) and (iv)
8. A,
9. The antibiotic penicillin was discovered by

(A) Alexander Fleming	(B) Ernst Boris Chain
(C) Robert Hooke	(D) Howard Florey
9. A,

10. Bacterium that helps in milk curdling is
 (A) Lactobacillus (B) Rhizobium
 (C) Lactococcus (D) Nitrobactor
10. A,
11. Some micro-organisms are used for the production of _____ required for immunity
 (A) Enzymes (B) Hormones
 (C) Antibiotics (D) Antiserum
11. C,
12. Leaving the land uncultivated for one or more seasons is called
 (A) Crop rotation (B) Inter cropping
 (C) Field following (D) Both (A) and (B)
12. C,
13. Select the wrongly matched pairs
 (A) Apiculture – Honey Bee (B) Seri culture – Fish
 (C) Dairy Farming – Milk (D) Poultry farming – Meat
13. B,
14. Which one of the following is not a rabi crop
 (A) Maize (B) Wheat
 (C) Linseed (D) Mustard
14. A,
15. Separation of grains from chaff is called
 (A) Sowing (B) Harvesting
 (C) Winnowing (D) Weeding
15. C,

Space for rough work