

# AMITY INSTITUTE

## FOR COMPETITIVE EXAMINATIONS

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# AMITY FIVE YEARS CONCEPTUAL PROGRAMME

## AFYCP WORKSHEET

### “An Insight ”

### CLASS (VIII)

Time: 1 hr

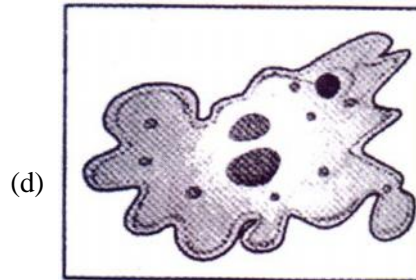
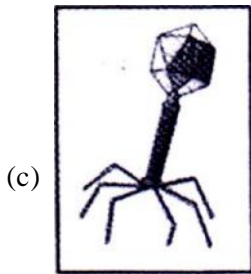
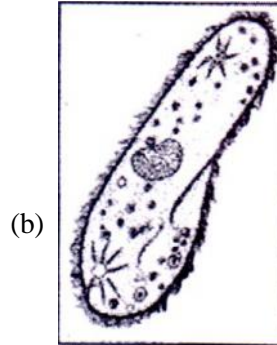
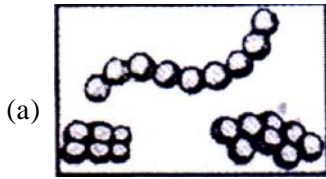
Maximum Marks: (4 × 30 = 120)

### LEVEL-I

(2 Question Physics, 2 Chemistry, 4 Maths, 2 Bio)

- A planet which is called born sister of Earth is  
(a) Mercury (b) Venus (c) Mars (d) Jupiter
- Read the given statements and mark the correct option.  
Statement 1 : It is difficult to move by a cycle along the road with breaks on.  
Statement 2 : The sliding friction is greater than the rolling friction.  
(a) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.  
(b) Both statement 1 and 2 are true but statement 2 is not the correct explanation of statement 1  
(c) Statement 1 is true and statement 2 is false  
(d) Both statements 1 and 2 are false
- Which of the following is a bad conductor of electricity?  
(a) Plastic (b) Copper (c) Steel (d) Brass
- Which of the following is a natural polymer?  
(a) Polyester (b) Nylon (c) Cellulose (d) Acrylic
- If  $\frac{4}{9} \div ? = -\frac{8}{15}$ , then ? =  
(a)  $-\frac{32}{45}$  (b)  $-\frac{8}{5}$  (c)  $-\frac{9}{10}$  (d)  $-\frac{5}{7}$
- If  $(2^{x-1} - 10) \div 11 = 2$ , then the value of x is  
(a) 0 (b) 5 (c) 6 (d) -2
- If Rajesh's age after 18 years will be 6 times of his age 7 years ago, then the present age of Rajesh is  
(a) 10 years (b) 16 years (c) 12 years (d) 18 years
- The rational number whose numerator is HCF of 7 and 14 and denominator is LCM of 2, 6 and 8 is  
(a)  $\frac{7}{16}$  (b)  $\frac{14}{24}$  (c)  $\frac{1}{32}$  (d)  $\frac{7}{24}$

9. DPT vaccine is given to an infant to protect against which diseases/disorder(s)
- (a) Diarrhoea, paralysis, trauma (b) Diphtheria, pertussis, tetanus  
 (c) Diphtheria, pertussis, typhoid (d) None of these
10. Which of the following microorganisms exists as a crystal?



## LEVEL-II

(2 Question Physics, 2 Chemistry, 3 Maths, 1 Bio and 2 Mental Aptitude)

Read and answer the following questions :-

Frictional force acts in a direction opposite to direction of motion of body.

1. Consider a vehicle going on a horizontal road towards east. Neglecting any force due air, the frictional force on the vehicle by the road
- (a) Is towards east if the vehicle is accelerating (b) Is zero if the vehicle is moving with a uniform velocity  
 (c) Must be towards east (d) Must be towards west

Read and answer the following questions :-

In equilibrium net force = 0

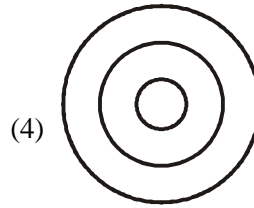
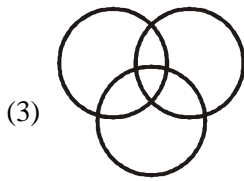
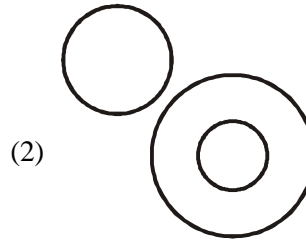
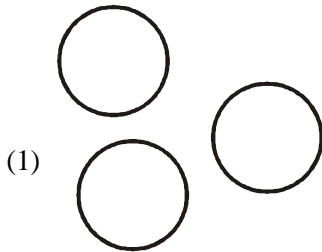
2. A motor cyclist rides around the well with a round vertical wall and does not fall down while riding because
- (a) The force of gravity disappears (b) He loses weight some how  
 (c) He is kept in this path due to the force exerted by surrounding air  
 (d) The frictional force of the wall balances his weight

Read and answer the following questions :-

A more active metal displaces a less active metal from compounds of the latter in solution. For example, aluminium and iron displace copper from a solution of copper sulphate. Dissolve some crystals of copper(II) sulphate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , which is also called blue vitriol) in water. Place iron nail in the solution. In a while, the portion of the nail which is inside the solution will become red. This is because a layer of copper gets deposited over the surface of the nail. The colour of the solution will slowly change from blue to green due to the formation of iron(II) sulphate.

3. Which of the following will displace copper from a solution of copper(II) sulphate?
- (a) Magnesium (b) Aluminium (c) Iron (d) All of these

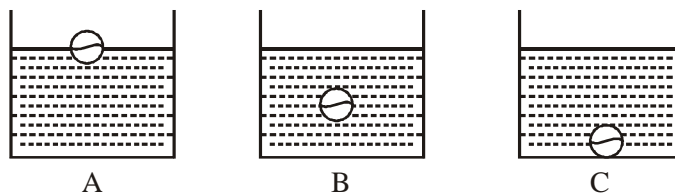
4. Which of the following is the best conductor of electricity?  
 (a) Silver (b) Copper (c) Aluminium (d) Iron
5. If  $6^2 + 7^2 + (42)^2 = (a)^2$ , then value of a is  
 (a) 43 (b) 44 (c) 45 (d) 46
6.  $1 - 2ab - (a^2 + b^2)$  is equal to  
 (a)  $(1 + a - b)(1 + a + b)$  (b)  $(1 - a + b)(1 + a + b)$   
 (c)  $(1 - a + b)(1 + a - b)$  (d)  $(1 - a - b)(1 + a + b)$
7. Ritesh buys some pens at 5 for a rupee and sells them at 2 for a rupee. His gain percent is  
 (a) 30% (b) 40% (c) 150% (d) 125%
8. Find the missing term of the series 0, 7, 26, 63, 124, \_\_\_\_\_?  
 (a) 217 (b) 211 (c) 218 (d) 215
9. Which of the following Venn diagrams is not suitable to represent the sets of men, women and mothers



- (a) (1) (b) (2) (c) (3) (d) (4)
10. Which of the following matches is incorrect?
- |     |           |                       |     |           |                     |
|-----|-----------|-----------------------|-----|-----------|---------------------|
| (a) | Organelle | Ribosome              | (b) | Organelle | Mitochondria        |
|     | Function  | Secretion of enzymes  |     | Function  | Site of respiration |
|     | Presence  | Plant and animal cell |     | Presence  | Animal cell only    |
| (c) | Organelle | Chloroplast           | (d) | Organelle | All of the above    |
|     | Function  | Storage of cell sap   |     | Function  | —                   |
|     | Presence  | Plant cell            |     | Presence  | —                   |

**LEVEL-III (Read, Understand and Apply)**

1. When you consider forces acting on a body consider forces acting on it only.
- Three identical vessels A, B and C contain same quantity of liquid. In each vessel, balls with different densities but same masses are placed as shown in figure. If  $F_A$ ,  $F_B$  and  $F_C$  are the total forces acting on the base of vessels A, B and C respectively then



- (A)  $F_A = F_B = F_C$  (b)  $F_A < F_B < F_C$  (c)  $F_A = F_B < F_C$  (d)  $F_A > F_B > F_C$

2. In an experiment 45 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.  
 (a) 4000 kJkg<sup>-1</sup>      (b) 400 kJkg<sup>-1</sup>      (c) 4 kJkg<sup>-1</sup>      (d) None of these
3. The rate percent per annum at which a sum of ₹ 6250 amount to ₹ 7840 in years compounded annually, is  
 (a) 8%      (b) 10%      (c) 9%      (d) 12%
4. Which of the following properties is not true for a kite?  
 (a) All its sides are of equal length  
 (b) Both pairs of its opposite sides are equal  
 (c) Its diagonals are perpendicular to each other  
 (d) Its diagonals are equal
5. Odd days are the number of days left after counting complete weeks in given number of days. The number of odd days in a leap year is  
 (a) 2 days      (b) 3 days      (c) 4 days      (d) 5 days
6. A, B, C and D are sitting in a room. A is the father-in-law of B. B is the wife of C. D is the matter of C. How is A related to C?  
 (a) Father      (b) Brother      (c) Uncle      (d) Son
7. In Vedic Mathematics, to multiply a two digit number by another two number. We use the following method

$$\begin{array}{r} 93 - 7 \\ \times 94 - 6 \\ \hline \end{array} \quad \begin{array}{l} (100 - 93 = 7) \\ (100 - 94 = 6) \end{array}$$

$$93 + 94 = 187/7 \times 6 = 42$$

$$\text{Answer } 93 \times 94 = 8742$$

Using the above method, find the value of a in multiplication of 89 with 95.

$$\begin{array}{r} 89 - 11 \\ 95 - 5 \\ \hline 18a / 11 \times 5 = 55 \end{array}$$

$$\text{Answer } 89 \times 95 = 8a55$$

So, the value of a is

- (a) 2      (b) 7      (c) 3      (d) 4
8. Among the following cell organelles P, Q, R and S, which is odd one out?



- (a) S, because the others are membrane bound cell organelles.  
 (b) P, because the others are involved in cell secretion.  
 (c) R, because the others are involved in protein storage  
 (d) Q, because the others are involved in energy production
9. Which is the most spoken language of Belgium?
10. Correct the one word that is spelled incorrectly.

A hung jury is one that cannot reach a concensus even after extended deliberation and debate. As a result, the case remains undecided, though it can be tried again in the future.