

1. Which of the following does not increase the rate of evaporation?

- A. Increase of temperature
- B. Increase in wind speed
- C. Increase in surface area
- D. Increase in humidity

Answer:: D

[YagnaQRefNo: 10-18] [Q Level: Unknown] [1. Matter in Our Surroundings]

2. Ice floats on the surface of water because

- A. It is heavier than water
- B. The density of both water and ice is the same
- C. Ice is lighter than water
- D. None of the above

Answer:: C

[YagnaQRefNo: 10-5] [Q Level: Unknown] [1. Matter in Our Surroundings]

3. If the temperature of a place is increase then evaporation

- A. decrease
- B. increase
- C. remain same
- D. none of the above

Answer:: B

[YagnaQRefNo: 10-14] [Q Level: Unknown] [1. Matter in Our Surroundings]

4. Benzene and water can be separated by

- A. Separating funnel
- B. Sublimation
- C. Fractional distillation
- D. Filtration

Answer:: A

[YagnaQRefNo: 11-22] [Q Level: Unknown] [1. Matter in Our Surroundings]

5. Blood and sea water are

- A. both mixtures
- B. both are compound
- C. blood is a mixture whereas sea water is a compound
- D. blood is a compound and sea water is a mixture

Answer:: A

[YagnaQRefNo: 11-30] [Q Level: Unknown] [2. Is Matter Around Us Pure]

6. A solution contains 50 ml of ethyl alcohol mixed with 150 ml of water. Calculate the concentration of solution

- A. 25%
- B. 50%
- C. 75%
- D. 60%

Answer:: A

[YagnaQRefNo: 11-15] [Q Level: Unknown] [1. Matter in Our Surroundings]

7. The number of molecules contained in 2 g of  $H_2$  is the same as the number of atoms in

- A. 1 g of  $H_2$
- B. 2 g of  $H_2$
- C. 71 g of  $Cl_2$
- D. 27 g of  $N_2$

Answer:: A

[YagnaQRefNo: 12-18] [Q Level: Unknown] [3. Atoms and Molecules]

8. What weight of oxygen gas will contain the same number of molecules as 56 g of nitrogen gas?

- A. 64g
- B. 32g
- C. 56g
- D. 28g

Answer:: A

[YagnaQRefNo: 12-20] [Q Level: Unknown] [3. Atoms and Molecules]

9. The formula of the compound dinitrogen trioxide is represented by

- A.  $2NO_3$
- B.  $2N_3O$
- C.  $N_2O_3$
- D.  $N_3O_2$

Answer:: C

[YagnaQRefNo: 12-9] [Q Level: Unknown] [3. Atoms and Molecules]

10. Which of the following is not correct observation/conclusion from Rutherford's scattering experiment?

- A. Nucleus is small but heavy
- B. Nucleus always carries positive charge
- C. Atom is nearly  $10^5$  times greater than the size of the nucleus
- D. The number of  $\alpha$ -particles hitting the nucleus is very large

Answer:: D

[YagnaQRefNo: 13-11] [Q Level: Unknown] [4. Structure of Atom]

11. The charge of proton ( $p^+$ ) is

- A.  $+1.6 \times 10^{-19}C$
- B.  $-1.6 \times 10^{-19}C$
- C.  $+1.6 \times 10^{19}C$
- D.  $-1.6 \times 10^{19}C$

Answer:: A

[YagnaQRefNo: 13-5] [Q Level: Unknown] [4. Structure of Atom]

12. Atomic Number of an element is equal to

- A. Number of Protons

- B. Number of electrons
- C. Number of neutrons
- D. Both a) and b)

Answer:: A

[YagnaQRefNo: 13-31] [Q Level: Unknown] [4. Structure of Atom]

13. The cell walls of the adjacent cells are joined together by a jelly like substance made up of calcium and magnesium pectate. This is called

- A. Microfibril
- B. Middle lamella
- C. Plasmodesmata
- D. Plasmalemma

Answer:: B

[YagnaQRefNo: 14-4] [Q Level: Unknown] [5. The Fundamental Unit of Life - Cell]

14. Which of the following differences between RER and SER is incorrect?

- A. RER = It mainly consists of cisternae  
SER = It consists mainly of tubules and vesicles
- B. RER = It has ribosomes attached on its its cytoplasmic surface  
SER = It is free of ribosomes
- C. RER = It is well developed in cells specialized to synthesize lipids and steroids  
SER = It is well developed in cells specialized to synthesize proteins
- D. RER = The products pass into the lumen of endoplasmic reticulum for transport to other places  
SER = The products do not pass into the lumen of endoplasmic reticulum

Answer:: C

[YagnaQRefNo: 14-6] [Q Level: Unknown] [5. The Fundamental Unit of Life - Cell]

15. Which of the following statements is not true regarding prokaryotes?

- A. They contain single chromosome
- B. They lack a nuclear membrane
- C. They are mainly multicellular
- D. They lack membrane bound cell organelles

Answer:: C

[YagnaQRefNo: 14-24] [Q Level: Unknown] [5. The Fundamental Unit of Life - Cell]

16. A long tubular outgrowth of a nerve cell which conducts impulses away from the cell body is termed as

- A. cyton
- B. axon
- C. Neuron
- D. dendrite

Answer:: D

[YagnaQRefNo: 15-28] [Q Level: Unknown] [6. Tissues]

17. Which of the following statements regarding apical meristem is not true?

- A. It brings about the elongation of the root and stem
- B. It brings about secondary growth

- C. It brings about primary growth
- D. None of the above

Answer:: B

[YagnaQRefNo: 15-21] [Q Level: Unknown] [6. Tissues]

18. The slow growing large coloured patches on the bark of trees which are result of symbiotic relationship between cyanobacteria and fungi are

- A. Mosses
- B. Lichens
- C. Ferns
- D. None of these

Answer:: B

[YagnaQRefNo: 16-28] [Q Level: Unknown] [7. Diversity in Living Organisms]

19. Which of the following structures are characteristics of reptiles but not of amphibians?

- A. Scales
- B. Lungs
- C. Smooth moist skin
- D. Vertebral Column

Answer:: A

[YagnaQRefNo: 16-21] [Q Level: Unknown] [7. Diversity in Living Organisms]

20. Which of the following statements is correct?

- A. speed distance are scalar, velocity and displacement are vector
- B. speed distance are vector, velocity and displacement are vector
- C. speed and velocity are scalar, distance and displacement are vector
- D. speed and velocity are vector, distance and displacement are scalar

Answer:: A

[YagnaQRefNo: 17-11] [Q Level: Unknown] [8. Motion]

21. Which of the following statements is correct?

- A. both speed and velocity are same
- B. speed is a scalar and velocity is a vector
- C. speed is a vector and velocity is scalar
- D. none of these

Answer:: B

[YagnaQRefNo: 17-5] [Q Level: Unknown] [8. Motion]

22. A particle of mass 0.3 kg is subjected to a force  $F = kx$  with  $k = 15 \text{ N/m}$  and  $x$  being its distance from the origin. What will be its initial acceleration if it is released from a point 20 cm away from the origin?

- A.  $5 \text{ m/s}^2$
- B.  $10 \text{ m/s}^2$
- C.  $3 \text{ m/s}^2$
- D.  $15 \text{ m/s}^2$

Answer:: B

[YagnaQRefNo: 18-11] [Q Level: Unknown] [9. Force and Laws of Motion]

23. A hockey player pushes the ball on the ground. It comes to rest after travelling certain distance because

- A. The player stops pushing the ball
- B. No balanced force acts on the ball
- C. The ball moves only when pushed
- D. The opposing force acts on the ball

Answer:: D

[YagnaQRefNo: 18-5] [Q Level: Unknown] [9. Force and Laws of Motion]

24. Which of the statements is correct?

- A. Mass is constant and weight is variable
- B. Mass is variable and weight is constant
- C. Both Mass and weight are variable
- D. Both Mass and weight are constant

Answer:: A

[YagnaQRefNo: 19-28] [Q Level: Unknown] [10. Gravitation]

25. Units of 'g' are

- A.  $m/s^2$
- B.  $N/Kg$
- C.  $Nm/s^2$
- D.  $Nms^2$

Answer:: A

[YagnaQRefNo: 19-21] [Q Level: Unknown] [10. Gravitation]

26. A horse and a calf are running with the same speed. The kinetic energy of the calf will be

- A. Greater than kinetic energy of the horse
- B. Less than the kinetic energy of the horse
- C. Equal to the kinetic energy of the horse
- D. None of these

Answer:: B

[YagnaQRefNo: 1A-22] [Q Level: Unknown] [11. Work and Energy]

27. A body of mass 2 kg is thrown up vertically with a kinetic energy of 490 J. If the acceleration due to gravity is  $9.8 \text{ ms}^{-2}$ , the height at which the kinetic energy of the body becomes half of the original value is

- A. 50m
- B. 25m
- C. 12.5m
- D. 10 m

Answer:: C

[YagnaQRefNo: 1A-30] [Q Level: Unknown] [11. Work and Energy]

28. S. I. units of frequency are

- A. second

- B. second<sup>-1</sup>
- C. (second)<sup>2</sup>
- D. decond<sup>-2</sup>

Answer:: B

[YagnaQRefNo: 1B-11] [Q Level: Unknown] [12. Sound]

29. Speed of sound is maximum in

- A. Solids
- B. Liquids
- C. Gases
- D. Plasma

Answer:: A

[YagnaQRefNo: 1B-5] [Q Level: Unknown] [12. Sound]

30. Which one of the following is not important for individual health?

- A. Living in clean space
- B. Good economic condition
- C. Social equality and harmony
- D. Living in a large and well furnished house

Answer:: D

[YagnaQRefNo: 1C-31] [Q Level: Unknown] [13. Why Do We Fall III]

31. AIDS is a disease caused by retrovirus, an RNA virus which brings about

- A. Reduction in the number of helper T-cells
- B. Reduction in the number of killer T-cells
- C. Autoimmunity
- D. Non production of interferons

Answer:: A

[YagnaQRefNo: 1C-1] [Q Level: Unknown] [13. Why Do We Fall III]

32. Which of the following statements is not true regarding nitrogen fixation?

- A. Nitrosomonas convert ammonia into nitrites
- B. Nitrobacter converts nitrites into nitrates
- C. Both the steps of (A) and (B) can be called nitrification
- D. Bacteria carrying out these conversions are usually photoautotrophs

Answer:: D

[YagnaQRefNo: 1D-29] [Q Level: Unknown] [14. Natural Resources]

33. Water vapours changes into water droplets by

- A. condensation
- B. evaporation
- C. sublimation
- D. none

Answer:: A

[YagnaQRefNo: 1D-17] [Q Level: Unknown] [14. Natural Resources]

34. Select among the following, a highly contagious and fatal viral disease of cattle which is also called cattle plague

- A. Anthrax
- B. Haemorrhagic septicemia
- C. Foot and mouth disease
- D. Rinderpest

Answer:: D

[YagnaQRefNo: 1E-31] [Q Level: Unknown]

[15. Improvement in Food Resources]

35. Which of the following pairs are correctly matched?

(i) Cereal crops	Sorghum
(ii) Pulse crops	Lentil
(iii) Oil seed crops	Sesame
(iv) Fodder crops	Castor

- A. (i)&(ii)
- B. (ii) & (iv)
- C. (i), (ii) & (iii)
- D. (iii) & (iv)

Answer:: C

[YagnaQRefNo: 1E-1] [Q Level: Unknown]

[15. Improvement in Food Resources]

36. Apple juice concentrate is mixed with water to make apple juice. Which of the following final mixtures has the highest percentage of apple juice concentrate?

- A. 400 ml apple juice concentrate mixed with 600 ml water
- B. 300 ml apple juice concentrate mixed with 600 ml water
- C. 300 ml apple juice concentrate mixed with 400 ml water
- D. 400 ml apple juice concentrate mixed with 400 ml water

Answer:: D

[YagnaQRefNo: 3-7] [Q Level: Unknown]

[Mental Ability]

37. Which set of numbers contain  $\sqrt{5}$ ?

- A. Natural numbers
- B. Rational numbers
- C. Integers
- D. Irrational numbers

Answer:: D

[YagnaQRefNo: 3-206] [Q Level: Unknown]

[Mental Ability]

38. Which number is a perfect square?

- A. 25
- B. 52
- C. 2
- D. 5

Answer:: A

[YagnaQRefNo: 3-170] [Q Level: Unknown]

[Mental Ability]

39. If a cylindrical cup contains water equal to  $\frac{1}{8}$  of its whole volume, then the ratio of the height of the cup to the depth of the water is \_\_\_\_\_

- A. 8: 1
- B. 6: 1
- C. 4: 1
- D. 2: 1

Answer:: A

[YagnaQRefNo: 3-53] [Q Level: Unknown] [Mental Ability]

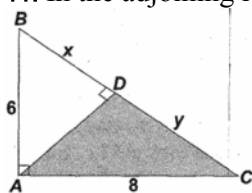
40. If  $\frac{(2^{n+1})^m (2^2)^n 2^n}{(2^{m+1})^n 2^{2m}} = 1$  then  $m = \text{-----}$

- A. 0
- B. 1
- C. -1
- D. 2n

Answer:: D

[YagnaQRefNo: 3-41] [Q Level: Unknown] [Mental Ability]

41. In the adjoining right-angled triangle ABC, find the value of x and



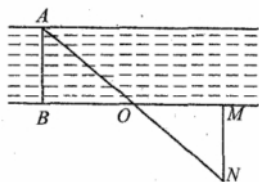
- A.  $x = 3.2\text{cm}; y = 2.8\text{cm}$
- B.  $x = 2.8\text{ cm}; y = 3.2\text{ cm}$
- C.  $x = 6.4\text{ cm}; y = 2.8\text{ cm}$
- D.  $x = 3.6\text{ cm}; y = 6.4\text{ cm}$

Answer:: D

[YagnaQRefNo: 3-11] [Q Level: Unknown] [Mental Ability]

42. Referring to the adjoining figure, one can find the breadth of the river without crossing it, by using the hint given below:

Hint: Let AB be the breadth of the river. Mark any point M on the bank on which B is situated. Let O be the mid-point of BM. From M move along the path MN perpendicular to BM to a point N such that A, O, N are in the same straight line. Then, MN is the required breadth of the river. Proof may be given by proving that  $\Delta OBA \cong \Delta AOMN$ . Is the above hint correct?



- A. Yes
- B. No



- C. Can't say  
D. Hint is incomplete

Answer:: A

[YagnaQRefNo: 3-81] [Q Level: Unknown] [Mental Ability]

43. Which is an equation of the line with slope  $\frac{2}{3}$  that passes through the point (4,-1)?

A.  $y = \frac{-1}{4}x + \frac{2}{3}$

B.  $y = -4x + \frac{2}{3}$

C.  $y = \frac{2}{3}x - \frac{5}{3}$

D.  $y = \frac{2}{3}x - \frac{11}{3}$

Answer:: D

[YagnaQRefNo: 3-176] [Q Level: Unknown] [Mental Ability]

44. Income of a company doubles after every one year. If the initial income was Rs. 4 lakhs, what would be the income after 5 years?

- A. Rs. 1.24 crores  
B. Rs. 1.28 crores  
C. Rs. 2.56 crores  
D. None of these

Answer:: B

[YagnaQRefNo: 3-261] [Q Level: Unknown] [Mental Ability]

45. Eight people are planning to share equally the cost of a rental car. If one person withdraws from the arrangement and the others share equally the entire rental of the car, then the share of each of the remaining persons increased by

- A.  $\frac{1}{9}$   
B.  $\frac{1}{8}$   
C.  $\frac{1}{7}$   
D.  $\frac{7}{8}$

Answer:: C

[YagnaQRefNo: 3-271] [Q Level: Unknown] [Mental Ability]

46. One card is drawn from a pack of 52 cards. What is the probability that the card drawn is a red card?

- A.  $\frac{1}{2}$   
B.  $\frac{6}{13}$   
C.  $\frac{1}{13}$

$\frac{27}{52}$ D.  $\frac{27}{52}$ 

Answer:: C

[YagnaQRefNo: 3-158] [Q Level: Unknown] [Mental Ability]

47. A cube of side 6 cm is painted on all its 6 faces with red colour. It is then broken up into 216 smaller identical cubes. What is the ratio of  $N_0 : N_1 : N_2$ .

Where,  $N_0$  ? number of smaller cubes with no coloured surface

$N_1$  ? number of smaller cubes with 1 red face

$N_2$  ? number of smaller cubes with 2 red faces

A. 3:4:6

B. 3:4:5

C. 4:6:3

D. Can't be determined

Answer:: C

[YagnaQRefNo: 3-104] [Q Level: Unknown] [Mental Ability]

48. What is the simplified form  $\frac{a^4 b^2 c}{a^3 b^5 c^2}$ ?

A.  $ab^3 c^2$ B.  $\frac{a}{b^3 c^3}$ C.  $a^7 b^7 c^3$ D.  $\frac{a}{b^3 c}$ 

Answer:: B

[YagnaQRefNo: 3-179] [Q Level: Unknown] [Mental Ability]

49. Simplify  $\frac{12}{3 + \sqrt{5} + 2\sqrt{2}}$

A.  $1 - \sqrt{5} + \sqrt{2} + \sqrt{10}$ B.  $1 + \sqrt{5} + \sqrt{2} - \sqrt{10}$ C.  $1 + \sqrt{5} - \sqrt{2} + \sqrt{10}$ D.  $1 - \sqrt{5} - \sqrt{2} + \sqrt{10}$ 

Answer:: B

[YagnaQRefNo: 3-66] [Q Level: Unknown] [Mental Ability]

50. Simplify  $\left(\frac{x^a}{x^b}\right)^{(a+b)} \left(\frac{x^b}{x^c}\right)^{(b+c)} \left(\frac{x^c}{x^a}\right)^{(c+a)}$

A. 0

B.  $x^{abc}$

C.  $x^{a+b+c}$

D. 1

[YagnaQRefNo: 3-242] [Q Level: Unknown]

Answer:: D  
[Mental Ability]

Yagna Innovation