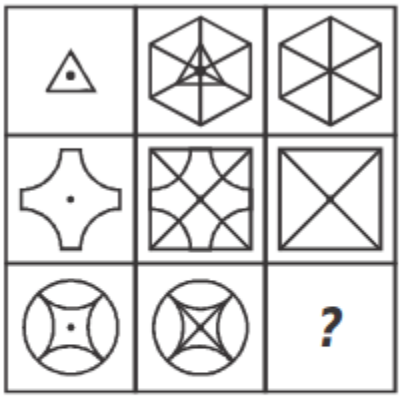
MAT

1. What is the value of the given statement?
   20142015 **20152014 – 20142014* * 20152015
   (A) 10000 (B) 0 (C) 2014 (D) 2015

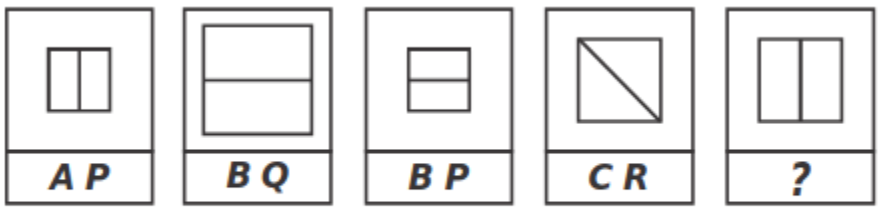
2. Which is the missing figure in the given group?



(A)  (B)  (C)  (D) 

d*

3. Which pair of letters represent the last figure?



(A) AR (B) CP (C) BR (D) AQ

4.Here are some words translated from an artificial language.
plekapaki means fruitcake
pakishillen means cakewalk
treftalan means buttercup
Which word could mean "cupcake"?
a) shillenalan
b) treftpleka
c) pakitreft
d) alanpaki

5.Look at this series: 36, 34, 30, 28, 24, ... What number should come next?
a)20
b)22
c)23
d)26

6.Look at this series: F2, __, D8, C16, B32, ... What number should fill the blank?
a)A16
b)G4
c)E4
d)E3

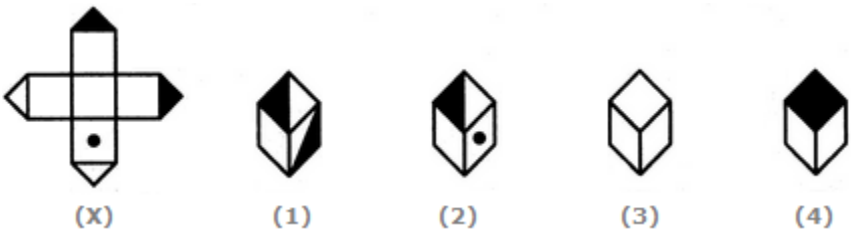
7.Four defensive football players are chasing the opposing wide receiver, who has the ball. Calvin is directly behind the ball carrier. Jenkins and Burton are side by side behind Calvin. Zeller is behind Jenkins and Burton. Calvin tries for the tackle but misses and falls. Burton trips. Which defensive player tackles the receiver?
a)Burton
b)Zeller
c)Jenkins
d)Calvin

8.it was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?
a)Sunday
b)Saturday
c)Friday
d)Wednesday

9.A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

145°
150°
155°
160°

10.Choose the box that is similar to the box formed from the given sheet of paper (X).



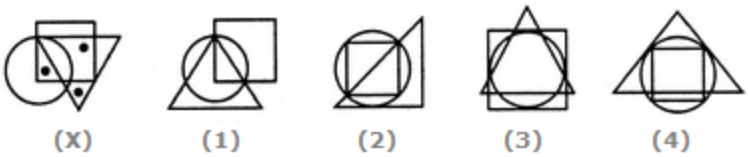
a) 1 and 2 only
b) 2 and 4 only
c) 2 and 3 only
d) 1 and 4 only

11.The six faces of a dice have been marked with alphabets A, B, C, D, E and F respectively. This dice is rolled down three times. The three positions are shown as:

Find the alphabet opposite A.

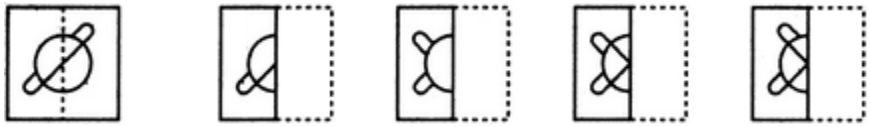
a) C
b) D
c) E
d) F

12.Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.



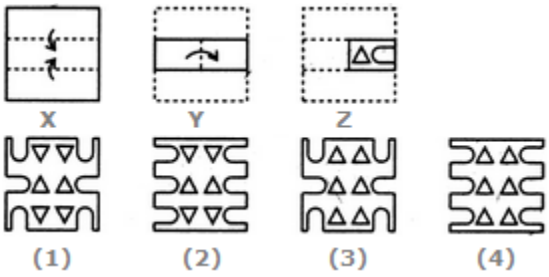
a) 1
b) 2
c) 3
d) 4

13.Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



a) 1
b) 2
c) 3
d) 4

14.Choose a figure which would most closely resemble the unfolded form of Figure (Z).



a) 1
b) 2
c) 3
d) 4

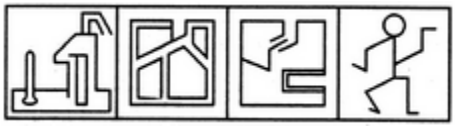
15.Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

(X)

(1) (2) (3) (4)

a) 1
b) 2
c) 3
d) 4

16.Find out the alternative figure which contains figure (X) as its part.



(X) (1) (2) (3) (4)

a) 1
b) 2
c) 3
d) 4

17.Choose the figure which is different from the rest.

(1) (2) (3) (4)

a) 1
b) 2
c) 3
d) 4

18.
If A + B means A is the brother of B; A - B means A is the sister of B and A x B means A is the father of B. Which of the following means that C is the son of M?

a) M - N x C + F
b) F - C + N x M
c) N + M - F x C
d) M x N - C + F*

19.Which of the following diagrams indicates the best relation between Women, Mothers and Engineers ?

a) 

b) 

c) 

d) 

20.Ms. Forest likes to let her students choose who their partners will be; however, no pair of students may work together more than seven class periods in a row. Adam and Baxter have studied together seven class periods in a row. Carter and Dennis have worked together three class periods in a row. Carter does not want to work with Adam. Who should be assigned to work with Baxter?

a) Carter
b) Adam
c) Dennis
d) Forest

Solutions:

1. A
2. D
3. A
4. D

5. B
6. C
7. C
8. C
9. C
10. C
11. C
12. C
13. D
14. B
15. C
16. D
17. A
18. D
19. A
20. A

MATHS

1.

Three classes X, Y, and Z take an algebra test:

- The average score in class X is **85**.
- The average score in class Y is **78**.
- The average score in class Z is **88**.
- The average score of all students in classes X and Y together is **80**.
- The average score of all students in classes Y and Z together is **84**.

What is the average score of all students in classes X, Y, and Z?

A. 82.4
B. 81.4
C. 82.8
D. 81.8

2.

A certain city has a circular wall around it, and this wall has four gates pointing north, south, east and west. A house stands outside the city, 3 km north of the north gate, and it can just be seen from a point 9 km east of the south gate.
What is the diameter of the wall that surrounds the city?

A. 6 km
B. 9 km
C. 12 km
D. None of these

3.

All the page numbers from a book are added, beginning at page 1. However, one page number was added twice by mistake. The sum obtained was **1500**. Which page number was added twice?

Options:
(A) 55
(B) 54
(C) 15
(D) 13

4.. $2^{69} - 2^{68} - 2^{67}$ equals to:

A. 2^{68}
B. 2^{66}
C. 2^{65}
D. 2^{67}

5.The product of two numbers is 12. The reciprocal of one number is 3 times the reciprocal of the other. What is the sum of the two numbers?

A. 9
B. 8
C. 6

D. 12

6.How many even integers are there between 200 and 70 whose digits are all different and come from the set {1,2,5,7,8,9}?

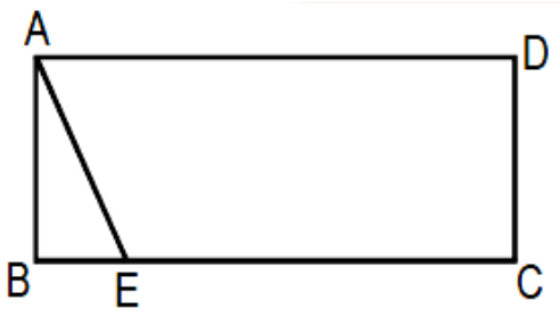
A. 12
B. 20
C. 72
D. 120

7.A man can do as much work in one day as a woman can do in 2 days. A child does half the work in a day as a woman. An estate owner hires 24 workers—men, women, and children—in the ratio 3: 2: 1 and pays them Rs. 748 at the end of the day's work. What must the daily wages of a child be if the wages are proportional to the amount of work done?

A. Rs.14
B. Rs.10
C. Rs.11
D. Rs.21

8.

In the figure given below, ABCD is a rectangle. The area of the isosceles right triangle ABE = 7cm2; EC = 3(BE). The area of ABCD (in cm2) is



A. 21 cm2
B. 28 cm2
C. 42 cm2
D. 56 cm2

9.
The players on a basketball team made some three-point shots, some two-point shots, and some one-point free throws. They scored twice as many points with three-point shots as with two-point shots. Their number of successful free throws was two more than their number of successful two-point shots. The team's total score was 100 points. How many free throws did they make?

A. 24
B. 18
C. 16
D. 14

10. If 3^(x+y)=27 and 27^(x−y) =3^6, then find the values of 3x+2 y respectively.
A. 8.5
B. 9
C. 7.5
D. 10.5

11.The area of a rectangle is given by $6x^2$y + $4y^2$x and the width of the rectangle is given by 2xy. Find the perimeter of the rectangle.
A. 6x + 8y + 2xy
B. 3x + 4y + 2xy
C. 8x + 6y + 4xy
D. 6x + 4y + 4xy

12.In a bag of marbles, 3/4 of the marbles are blue and the rest are red. If the number of red marbles is doubled and the number of blue marbles stays the same, what fraction of the marbles will be red?
A. ⅖
B. ⅕
C. 2/7
D. 1/7

13.

A semicircle is drawn with AB as its diameter. From C, a point on AB, a line perpendicular to AB is drawn meeting the circumference of the semi-circle at D. Given that AC = 2cm and CD = 6 cm, the area of the semi-circle (in sq. cm)
will be:

A. 32pi
B. 50pi
C. 40.5pi
D. 81pi

14.
There were a hundred schools in a town. Of these, the number of schools having a play – ground was 30, and these schools had neither a library nor a laboratory. The number of schools having a laboratory alone was twice the number of those having a library only. The number of schools having a laboratory as well as a library was one fourth the number of those having a laboratory alone. The number of schools having either a laboratory or a library or both was 35.
How many schools had none of the three viz., laboratory, library or play – ground?

A. 20
B. 5
C. 30
D. 35

15. A can complete a piece of work in 3 days. B takes twice the time taken by A, C takes three times the time taken by B, and D takes twice the time taken by C to complete the same task. They are paired in groups of two each. One pair takes **one-sixth** the time needed by the second pair to complete the work. Which is the first pair?

A. A and B
B. B and C
C. B and D
D. C and D

16. Which among the following is the greatest:

$2^{1/4}, 3^{1/6}, 12^{1/24}, 6^{1/12}$

A. $2^{1/4}$
B. $3^{1/6}$

C. $12^{1/24}$

D. $6^{1/12}$

17. Three numbers are in the ratio 2 : 3 : 4. The sum of their cubes is 33957. Find the largest number.

A. 28

B. 21

C. 32

D. 14

18. Find the number of coins, each of which are 1.5 cm in diameter and 0.2 cm thick, required to form a right circular cylinder of height 10 cm and diameter 4.5 cm.

A. 450

B. 250

C. 350

D. 400

19.

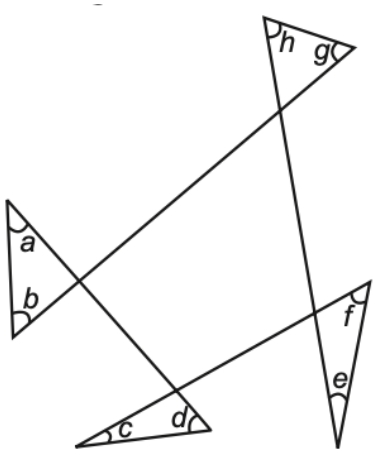
Find the sum of *a*, *b*, *c*, *d*, *e*, *f*, *g* and *h*.

A. 720°

B. 360°

C. 540°

D. 180°



20. A set of consecutive positive integers beginning with 1 is written on the blackboard. A student came along and erased one number. The average of the remaining numbers is $35\frac{7}{17}$.

What was the number erased?

A. 7

B. 8

C. 9

D. None of these

Solutions :

1) A
2) B
3) C
4) D
5) B
6) A
7) C
8) D
9) C
10) A
11) D
12) A
13) B
14) D
15) D
16) B
17) A
18) A
19) B
20) A

CHEMISTRY

1. Gold and silver are called noble metals because
(A)They do not, normally, react in their natural environment
(B)Ladies of royalty wear them as jewellery
(C)They are worn by noblemen
(D)Even acids cannot dissolve them without strong heat.

2. Which of the water pollutant is incorrectly paired with the source?
(A)Oil spill- ship

(B) Pesticide- oil palm plantation
(C)Sewage- factories
(D) Nitrate- farm

3. Which of the following is the correct definition of ignition temperature?
a. The lowest temperature at which a substance catches fire spontaneously.
b. The lowest temperature at which a substance catches fire.
c. The lowest temperature at which a substance changes its physical state.
d. The lowest temperature required for a chemical reaction to take place.

4. Which one of the following is the correct sequence of the reactivity order of the elements?
a. Cu > Mg > Zn > Na
b. Na > Zn > Mg > Cu
c. Cu > Zn > Mg > Na
d. Na > Mg > Zn > Cu

5. Which of the following statements are correct?

I. Substance which undergoes spontaneous combustion have ignition temperature higher
than the room temperature.
II. Respiration is a special combustion reaction at body temperature.
III. Formation of rust is an example of slow combustion.
IV. Combustion is an exothermic reaction.

(A) I and II only
(B) II and IV only
(C) I, II and IV only
(D) II, III and IV only

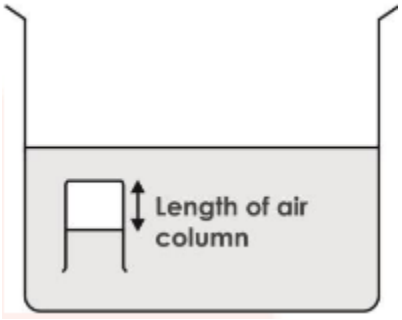
6. Fill in the blank:
When an iron nail gets rusted, iron oxide is formed _____.
a. without any change in the weight of the nail
b. with increase in the weight of the nail
c. with decrease in the weight of the nail

d. without any change in colour or weight of the nail

7. Fill in the blank:
To a small quantity of X, few drops of HCl are added. Consequently, colourless, odourless
gas is produced. This gas on passing through lime water turns it milky proving the presence
of _____ of X.
a. carbonate b. bicarbonate
c. carbide d. either carbonate or bicarbonate

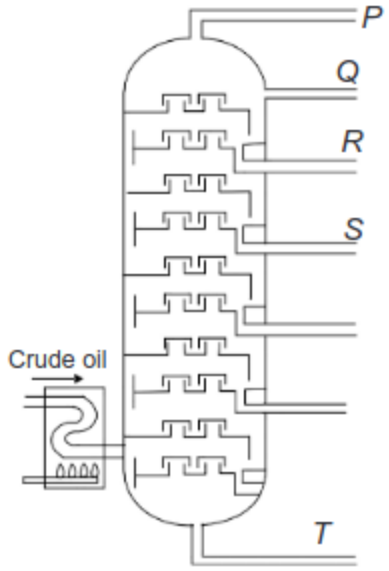
8.Which of the following pairs cannot undergo displacement reaction?
a. Iron sulphate solution and magnesium b. Zinc sulphate solution and iron
c. Zinc sulphate solution and calcium d. Silver nitrate solution and copper

9.An empty glass is inverted and lowered 20 cm into a trough of water, a trough of oil, a trough of mercury and a trough of iodine. Given that the densities of water, oil mercury and iodine are 1000 kg m–3, 800 kg m–3 and 5000 kg m–3 respectively, in which liquid will the length of air column in the cup be the Shortest?



(A)Water (B)Oil
(C)Mercury (D)Iodine
Ans: C

10.The given figure represents fractional distillation of petroleum.



Which of the following statements are correct
regarding this process?
I. P is used in LPG and condenses first.
II. Q, R and S all are used as domestic fuels.
III. The increasing order of boiling points is
P < Q < R < S < T
IV. Paraffin wax is obtained from T.
(A) III and IV only
(B) I and III only
(C) II, III and IV only
(D) I, III and IV only

11.The pressure of the water near the bottom of the
wall forming a dam does not depend on _____.
(A) The depth of the water
(B) The cross-sectional area of the reservoir
(C) Density of water
(D) Atmospheric pressure

12.Methyl orange indicator gives .. colour with acids and .. colour with bases
a. Red b. Yellow c. Green d. Blue
1. a and c
2. a and b
3. c and d
4. a and d

13.Arrange the following threads in order of their increasing strength assuming all threads are of
some length and almost same thickness :
(A) cotton < wool < silk < nylon (B) cotton < silk < wool < nylong
(C) silk < cotton < wool < nylon (D) silk < wool < cotton < nylon

14.... metal presents in central atom of chlorophyll in plants
a)carbon
b)sulphur
c)nitrogen
d)magnesium

15.What happens to the color of litmus paper when you put a drop of acid on it?
a) It gets destroyed
b) from red it turns blue
c)From blue it turns red
d) It is unaffected by acid
Ans: C

16. In the Periodic table, neighboring elements are generally, more related to each other in their physical and chemical properties then the ones farther away. Identify the combination of unrelated families.
a)Iron, cobalt and nickel
b)Chlorine, bromine and iodine
c)Chromium, molybdenum and tungsten
d)Oxygen, carbon and phosphorous

17 .Which of the major sources of air pollution contributes pollutants like chlorofluorohydrocarbons?

a) Industrial effluents
b) Aerosols
c) Sewage Pollutants
d) All of the above

18.How can pollution from the burning of fossil fuels be reduced?

i. By using an incineration
ii. By using renewable source of energy
iii. By fixing catalytic converters in vehicles

a)Only i and ii

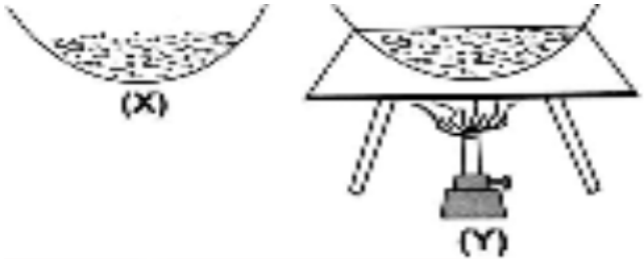
b)Only ii and iii
c)Only i and iii
d) i,ii and iii

19)Petroleum and natural gas are often found together as large deposits deep inside the earth's crust. What is the correct in which they are present in the earth?

	X	Y	Z
(A)	Water,	Crude oil,	Natural gas
(B)	Water,	Natural gas,	Crude oil
(C)	Crude oil,	Water,	Natural gas
(D)	Natural gas,	Water,	Crude oil

20)Rakesh mixed some iron filings with sulphur powder in a China dish. In another dish he mixed iron filings and sulphur powder and heated the mixture.

Which of his observations is not correct?



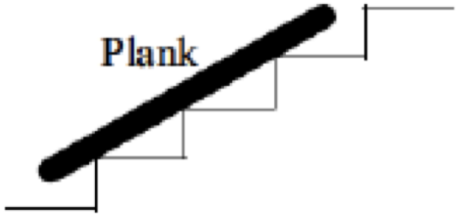
(A)Dish X shows a physical change while dish Y shows a chemical change
(B)In dish X sulphur powder and iron filings can be seen separately
(C)In dish Y a new substance is formed on heating the mixture
(D)The change which has taken place in dish Y is reversible

SOLUTIONS:
1.A
2.C
3.B
4.D

5.D
6.B
7.D
8.B
9. C
10.A
11.B
12.2
13.A
14.D
15.C
16.D
17.B
18.D
19.A
20.D

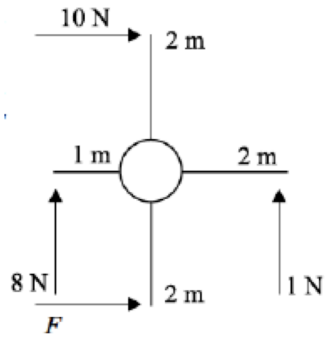
PHYSICS

1. **A plank is supported on the steps of a staircase as shown in the figure. How many forces are acting on the plank?**



a. 4
b. 5
c. 6
d. 7

2. **A windmill is pushed by four external forces as shown in the given figure. The force F required to make the windmill stand?**



   a. 10
   b. 13
   c. 15
   d. 18

3. **Which of the following objects experience balanced forces?**
   a. A ball dropping vertically.
   b. A car accelerating uniformly from rest.
   c. A trolley moving at a constant velocity down an inclined plane.
   d. A plane flying in a circle with constant speed

4. **Match Column-I with Column-II and select the correct option from the codes given below.**
   Column-I
   (a) A child running to catch the school bus
   (b) A man blowing a balloon
   (c) A woman pushing a table
   (d) A cricketer catching a ball
   Column-II
   (i) Force can make a stationary object to move
   (ii) Force can stop a moving object
   (iii) Force can change the shape of an object
   (iv) Force can make an object move faster
   Options:
   (A) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
   (B) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
   (C) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
   (D) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

5. **A point objet is placed midway between two plane mirrors distance 'a' apart. The plane mirrors form an infinite number of images due to multiple reflections. The distance between nth orders images formed in the two mirrors**

a. na
b. 2na
c. na/2
d. n^2a

6. **A man stands between two vertical walls. One wall is 300 m away and the other is 600 m away. After making a loud clap, he hears two echoes at an interval of time t. Calculate the time interval t. (Take the speed of sound in air to be 300 m/s)**
    a. 1.0s
    b. 1.5s
    c. 2.0s
    d. 4.0s
7. **Determine the amount of charge that passes through a point in a conductor in coulombs if 60 mA flow in 10 minutes.**
    a. 36
    b. 60
    c. 167
    d. 600
8. **A plane mirror makes an angle of 30° with horizontal. If a vertical ray strikes the mirror, find the angle between mirror and reflected ray.**
    a. 30
    b. 45
    c. 60
    d. 90
9. **A student bangs a drum in the middle of a rectangular hall. Two echoes are detected at 40 ms and 70 ms respectively. If the length of the concert hall is 24m and there is no echo from the ceiling, what is the speed of sound in air?**
    a. 343 m/s
    b. 600 m/s
    c. 686 m/s
    d. 1200 m/s
10. **A star spinning rapidly emitting pulses of radio and optical energy is called**
    a. Pulsar star
    b. Neutron star
    c. Proton star
    d. Electron star
11. **A point object is moving on the principal axis of a concave mirror of focal length 24 cm towards the mirror. When it is at a distance of 60 cm from the**

mirror, its velocity is 9 cm/s. What is the velocity of the image at that instant?

a. 5 cm/s towards the mirror
b. 4 cm/s towards the mirror
c. 4 cm/s away from the mirror
d. 9 cm/s away from the mirror

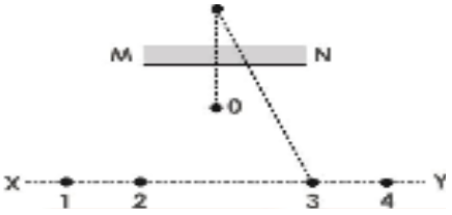
12. **The pressure on the tyres of a sedan car is 220 kPa. The contact surface of each tyre with the floor is 200 cm^2.Calculate the new contact surface of each tyre when air is released from the tyre and the pressure of the car is reduced to 180 kPa(in cm^2).**

a. 240
b. 200
c. 245
d. 500

13. **An underwater transmitter sends out a pulse of sound of 850 Hz from the bottom of a boat which is 14 m above the seabed. An electronic timer records a time of 0.02 s between the pulse being emitted and the echo being detected. What is the wavelength of the pulse?**

a. 0.61m
b. 0.82m
c. 1.21m
d. 1.65m

14. **An object O is placed in front of a plane mirror MN as shown in the diagram below. A student moves her eye along the line XY to observe the image of O. Identify the points on the line XY where the image of O cannot be seen.**

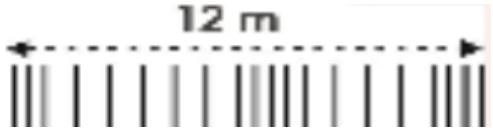


a. 1,2 and 4 only
b. 1,3 and 4 only
c. 3 and 4 only
d. 4 only

15. **In an experiment to determine the speed of sound, a gun was fired and an observer at a distance away measured the time interval between seeing the flash of the gun and hearing the shot. The speed of sound in air is calculated by distance/time. Which of the following will not affect the result? 1) The frequency of sound; 2) The temperature of the environment; 3) The loudness of sound**

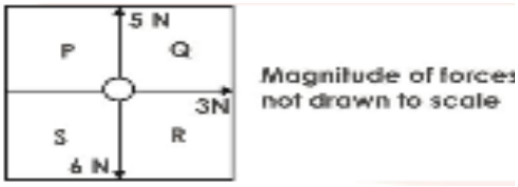
a. 1 and 2 only
b. 2 and 3 only
c. 1 and 3 only
d. 1,2 and 3 only

16. **A series of compressions and rarefactions of a sound wave is shown below. What is the wavelength of the wave?**



a. 3m
b. 4m
c. 9m
d. 12m

17. **The diagram below shows the top view of a field separated into four sectors, P, Q, R, and S. A cart tied to three ropes is placed in the middle of the field. Three bull carts start to pull the ropes (with forces indicated in the diagram) at the same time. In which sector will the cart start to move initially?**



a. Sector P
b. Sector Q
c. Sector R
d. Sector S

18. **Forty electric bulbs are connected in series across a 220 V supply. After one bulb is fused the remaining 36 are connected again in series across the same supply. The illumination will be**
    a. More with 40 bulbs than with 39
    b. More with 39 bulbs than with40
    c. Equal in both the cases
    d. In the ratio 402 : 392
19. **A plastic comb is rubbed with dry hair whereas a glass rod is rubbed with a piece of silk cloth. Which of these will get positively charged? A. Plastic comb B. Glass rod C. Dry hair D. Silk cloth**
    a. A and B
    b. B and C
    c. A and D
    d. B and D

20. **What happens when light emitted by a point source of light is passed through a prism?**
    a. After dispersion, the emerging light would produce a pure spectrum on the screen.
    b. After dispersion, the emerging light would produce an impure spectrum on the screen.
    c. After dispersion, the emerging light would produce a line spectrum on the screen.
    d. None of these

SOLUTIONS:
1.D
2.B
3.C
4.A
5.B
6.C
7.A
8.C
9.A
10.A
11.C
12.C
13.D
14.D
15.C
16.B
17.C
18.B
19.B
20.B

BIOLOGY

1. Which of these is a behavioral adaptation?
(A)A hognose snake pretends as dead to trick the predator
(B)A frog's light coloured belly makes it harder for a predatory fish to see it against sunlight on the water surface
(C)The scarlet king snake looks very much like the poisonous

coral snake
(D)A treehopper on a leaf or twig resembles a thorn

2. Which of the following effects is not due to SPM?
(A)Interference with photosynthesis
(B)Respiratory problems
(C)Eutrophication
(D)Blackening of buildings and monuments

3. Match the Column I with Column II:

Column I		Column II	
1.	Binary fission	a.	Spirogyra
2.	Budding	b.	Yeast
3.	Fragmentation	c.	Low organisms
4.	Vegetative propagation	d.	Aphids
5.	Parthenogenesis	e.	Sugarcane

a. 1 – b, 2 – d, 3 – e, 4 – c, 5 – a b. 1 – c, 2 – b, 3 – a, 4 – e, 5 – d
c. 1 – e, 2 – c, 3 – d, 4 – a, 5 – b d. 1 – a, 2 – e, 3 – b, 4 – d, 5 – c

4. Different microorganisms taking part in the nitrogen cycle are:
i. Rhizobium in roots
ii. Ammonifying bacteria
iii. Nitrifying bacteria
iv. Denitrifying bacteria
Which of them strictly work under anaerobic conditions?
a. Only iv b. i and iv
c. i, ii and iv d. ii and iv

5. Which of the following can lead to menstruation in a 21-year-old woman after ovulation?

A. Sperms not available for fertilisation
B. Oviducts blocked
C. Sperms available for fertilisation
D. Oviducts not blocked
a. A and B b. B and C
c. A and D d. C and D

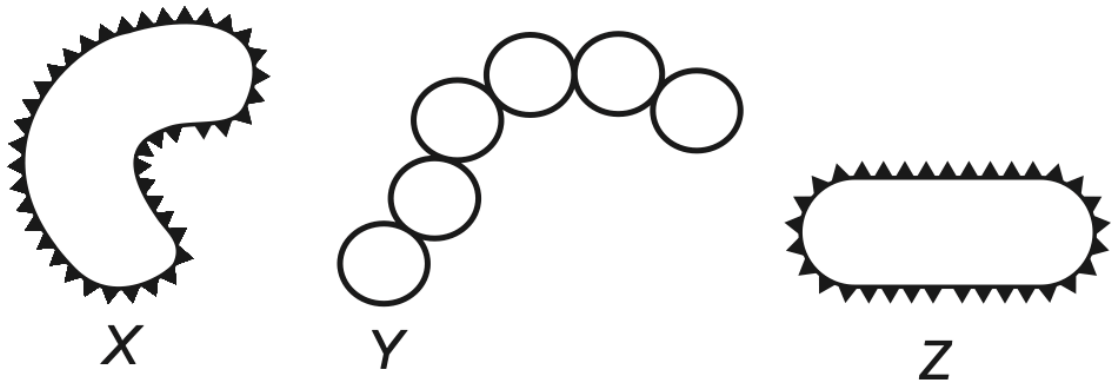
6.The place where animals receive protection is called :

A) Zoo
(C) Rock shelters

(B) National parks

(D) None of these

7.Refer to the given figures of bacteria X, Y and Z and read the statements (i), (ii), (iii) and (iv) regarding them.



(i) Bacterium X can be a causal organism of typhoid.

(ii)Bacterium Y can cause a disease which disrupts proper exchange of gases.

(iii) Bacterium Z can convert lactose sugar of milk into lactic acid.

(iv) Bacterium X can be the causal organism of cholera.

Which of these statements are incorrect?

(A) (i) only

(B) (i) and (ii) only

(C) (ii), (iii) and (iv) only

(D) (i), (ii), (iii) and (iv)

8.The process of loosening and turning of soil is called

(a) irrigation and manuring

(c) tilling and ploughing

(b) digging and winnowing

(d) harvesting and storage

9.The disease caused by a protozoan and spread by an insect is

_____.

(a) dengue (c) polio

(b) malaria (d) measles

10.The two micro-organisms which live in symbiotic association in

lichens are

(a) fungus and protozoa (c) bacteria and protozoa

(b) alga and bacteria (d) alga and fungus

11.The Red Data Book keeps a record of all the

(i) endemic species. (iii) endangered plants.

(ii) extinct species. (iv) endangered animals.

(a) i & ii; (b) ii & iii;

(c) iii & iv (c) i & iv

12.Cheek cells do not have _____

(a) cell membrane (c) golgi apparatus

(b) nucleus (d) plastids

13.Which of the following is not a cell?

(a) Red Blood Corpuscle (RBC)

(b) bacterium

(c) spermatozoa

(d) virus

14.Pathogenic micro-organisms present in host cells are killed by

medicines called

(a) pain killer (c) antibiotics

(b) antibodies (d) vaccines

15.

(X) (Y)

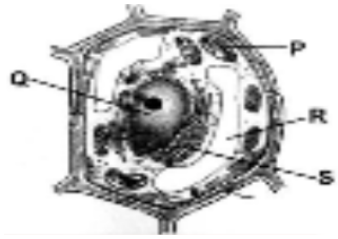
i. Figure P represents a unicellular alga
ii. Figure Q represents a parasitic protozoan
iii. Organism in figure P cannot synthesize its own food
iv. Organism in figure Q shows mixotrophic mode of nutrition

a)All i, ii, iii and iv
b)Only i and iv
c)Only i,iii and iv
d)Only ii and iii

16.Identify the incorrect statement about the organism shown here.

a)It lives in extremely cold conditions where the water is always below the freezing temperature
b)Its body is streamlined, feet are webbed and is excellent swimmer
c)It is a solitary animal who lives alone near the sea
d)It huddles together in groups to keep each other warm

17. Identify the labelled part which takes part in the transmission of hereditary characters from one generation to another.

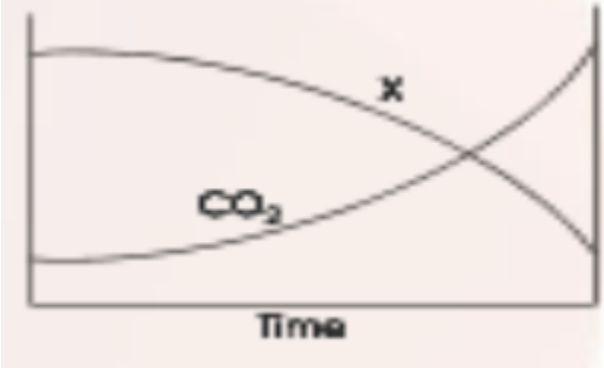


a)P
b)Q
c)R
d)S

18. The pituitary gland by virtue of its tropic hormones controls the secretory activity of other endocrine glands. Which of the following endocrine glands can function independent of the pituitary gland?

a) Adrenals
b) Gonads
c) Thyroid
d) Parathyroid

19. A researcher has made following statements and graph on greenhouse effect. "Greenhouse effect is rapidly increasing because of increase in concentration of carbon dioxide". In the given graph the increase in carbon dioxide concentration is shown.



What could be X corresponding to it?
i. Rate of photosynthesis in plants
ii. pH of the oceans
iii. Water level of ocean
iv. Average global temperature of earth

a) Only i and iii
b) Only ii and iv
c) Only ii
d) Only iv

20. Differentiation of shoot in plant tissue culture is controlled by

a)High auxin : cytokinin ratio
b)High cytokinin: auxin ratio

(c)High gibberellin: cytokinin ratio
d)High gibberellin: auxin ratio

Solutions:
1.A
2. C
3.B
4.A
5.A
6.A
7.A
8.C
9. D
10.B
11.C
12.D
13.D
14.C
15.B
16.C
17.B
18.D
19.C
20.B