



# Manav Rachna International School

SESSION: 2021-22  
SCHOLARSHIP TEST PAPER  
FOR GRADE VIII

Duration: 2 Hours

M.M: 100

KINDLY FILL THE GIVEN DETAILS

Name: \_\_\_\_\_

Father's Name: \_\_\_\_\_

Mother's Name: \_\_\_\_\_

Current Class: \_\_\_\_\_

Examination Centre: Manav Rachna International School \_\_\_\_\_

## GENERAL INSTRUCTIONS:

- This paper is divided into 4 sections  
**SECTION – A:** Logical Reasoning: 20 marks (All questions carry 2 marks each)  
**SECTION – B:** English: 20 marks (All MCQs carry 1 mark each, Short Answer Type Questions carry 2 marks each, Long Answer Type Question carries 10 marks)  
**SECTION – C:** Math: 30 marks (All Objective Questions carry 1 mark each. All Subjective Questions carry 2.5 marks each)  
**SECTION – D:** Science: 30 marks (All Objective Questions carry 1 mark each. All Subjective Questions carry 2 marks each)
- All sections are compulsory.
- Read each question carefully before answering.
- Objective Questions need to be **tick marked** in the question paper itself and submitted.
- Subjective Questions need to be attempted in the answer sheets provided and submitted.

## SECTION A LOGICAL REASONING

1. Marathon is to race as hibernation is to:

- winter
- bear
- sleep
- dream

2. Optimist is to cheerful as pessimist is to:

- gloomy
- mean
- petty
- helpful

3. Look at this series: 2, 1, (1/2), (1/4), ... What number should come next?

- a) 1/3
- b) 1/8
- c) 2/8
- d) 1/16

4. Look at this series: 22, 21, 23, 22, 24, 23, .... What number should come next?

- a) 22
- b) 24
- c) 25
- d) 26

5. Look at this series: 8, 22, 8, 28, 8, ... What number should come next?

- a) 9
- b) 29
- c) 32
- d) 34

6. **Applying for Seasonal Employment** occurs when a person requests to be considered for a job that is dependent on a particular season or time of year. Which situation below is the best example of Applying for Seasonal Employment?

- a) The ski instructors at Top of the Peak Ski School work from December through March.
- b) Matthew prefers jobs that allow him to work outdoors.
- c) Lucinda makes an appointment with the beach resort restaurant manager to interview for the summer waitressing position that was advertised in the newspaper.
- d) Doug's ice cream shop stays open until 11 p.m. during the summer months.

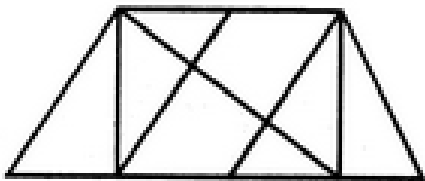
7. Read the given statements and answer accordingly-

I. All the schools in the area had to be kept closed for most part of the week.

II. Many parents have withdrawn their children from the local schools.

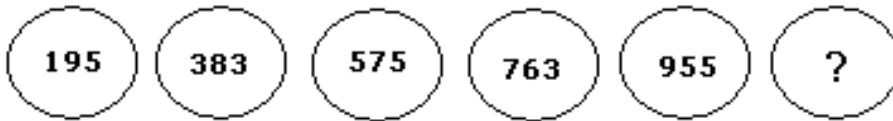
- a) Statement I is the cause and statement II is its effect
- b) Statement II is the cause and statement I is its effect
- c) Both the statements I and II are independent causes
- d) Both the statements I and II are effects of independent causes

8. Find the number of triangles in the given figure



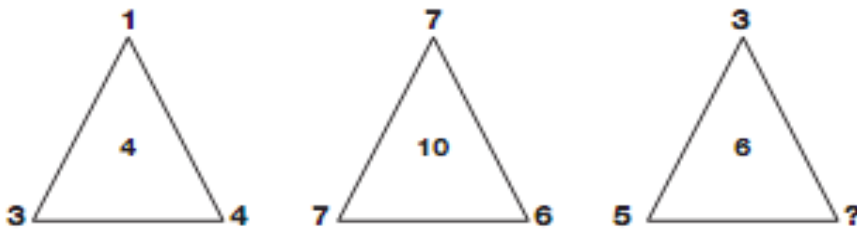
- a) 8
- b) 10
- c) 12
- d) 14

9. Which 4 digit number is missing from the last oval



- a) 1143
- b) 1431
- c) 1341
- d) 1134

10. Which number replaces the question mark?



- a) 3
- b) 4
- c) 6
- d) 5

## SECTION B ENGLISH

1. Read the passage carefully and answer the questions that follow.

I. **The Vitamin Shoppe:** 1,946 part-time openings.

The Vitamin Shoppe is a New Jersey-based retailer of nutritional supplements. They also operate stores in Canada under the name "VitaPath". The company provides approximately 8,000 different SKU's of supplements through its retail stores and over 20,000 different SKU's of supplements through its online retail websites.

**Employee Review:** "Good growth opportunities and stores opening all over the US all year 'round. Company based out of NJ, so more progressive policies on employment and benefits. Good vacation, health, and dental benefits. Payment is above average. Good policies on customer service interaction as well. Focus on Customer Service vs. Pushing Products."

II. **Chipotle:** 1,553 part-time openings.

Chipotle is known for its use of organic meats throughout its more than 1,500 restaurants, which are located in 45 states. Since having been founded in 1993, the chain has exploded and now counts some 37,000 employees. It is a pioneer in the "fast casual" dining movement.

**Employee Review:** "The people I work with are awesome and the food is good. It pays my bills and

makes me laugh. The schedule is super flexible but it's a lot of work. If you're looking for something easy and laid back, keep looking."

III. **Advantage Sales & Marketing:** 1,742 part-time openings.

Advantage Sales & Marketing provides outsourced sales, merchandising, and marketing services to consumer goods and food product manufacturers and suppliers. Owing more than 65 offices in the US and Canada, ASM does merchandising for 1,200 clients -- including Johnson & Johnson, Mars, Unilever, Energizer.

**Employee Review:** "Long lasting business, able to adapt to changes in market. Well-thought out schedule, and flexible time off for both vacation and illness."

IV. **Universal Protection Service:** 1,219 part-time openings.

Universal Protection Service is one of the largest providers of security services in the U.S. They offer an expansive range of security solutions for airports, healthcare facilities, office buildings, and more.

**Employee Review:** "Good pay depending on where you work. Room for advancement based on availability. Better company than any other I have worked for in security."

V. **PSA Healthcare:** 1,295 part-time openings

PSA Healthcare, also known as Pediatric Services of America, provides comprehensive home health services through a branch of office across the United States. The company is headquartered in Atlanta, Ga.

**Employee Review:** "I love working one-on-one with the pediatric patient and their families. You have the time needed to give great compassionate care! Office staff and supervisors are very good with both employees and clients. There is a lot of flexibility with staffing. I never received grief for requesting a day off."

**On the basis of your reading of the above passage, choose the correct option from the following: -**

i. Which offer has the most part-time openings?

- a) Chipotle
- b) PSA Healthcare
- c) The Vitamin Shoppe
- d) Advantage Sales & Marketing

ii. Which of these companies operate both in USA and Canada?

- a) The Vitamin Shoppe and Advantage Sales & Marketing
- b) PSA Healthcare and Advantage Sales & Marketing
- c) Chipotle and PSA Healthcare
- d) PSA Healthcare and The Vitamin Shoppe

iii. Reviewer of which company says that it is the best security company he/she has worked for?

- a) Chipotle
- b) The Vitamin Shoppe
- c) Universal Protection Service
- d) PSA Healthcare

iv. Which company was founded in 1993?

- a) The Vitamin Shoppe
- b) Universal Protection Service
- c) PSA Healthcare
- d) Chipotle

- v. Main office of which company is situated in Atlanta?
- The Vitamin Shoppe
  - PSA Healthcare
  - Chipotle
  - Advantage Sales & Marketing
- vi. VitaPath is the other name of which company?
- PSA Healthcare
  - Universal Protection Service
  - The Vitamin Shoppe
  - Advantage Sales & Marketing
- vii. Which review doesn't mention a comfortable timetable?
- Chipotle
  - Advantage Sales & Marketing
  - The Vitamin Shoppe
  - PSA Healthcare
- viii. Do the following statements agree with the information given in the passage?
- The Vitamin Shoppe has an above average salary, according to the review.
  - Reviewer of the company Chipotle says that working there is both fun and earns enough money.
  - Advantage Sales & Marketing owns 65 offices all over the world.

**WRITE**

- TRUE                      if the statement agrees with the information  
 FALSE                     if the statement contradicts the information  
 NOT GIVEN                if there is no information on this

**2i. Give a factual description of a street that leads to your home. (Word Limit – 150 words)**

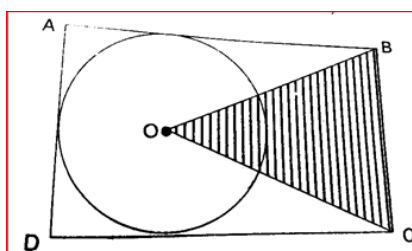
**OR**

**ii. Draft a speech outlining the positive and negative effects of social media. (Word Limit- 150 words)**

**SECTION C  
 MATH**

**OBJECTIVE**

1. In the following figure, ABCD is a rectangle with  $AB = 9\text{cm}$  and  $BC = 6\text{cm}$ . O is the centre of the circle. Find the area of the shaded region (in  $\text{cm}^2$ .)

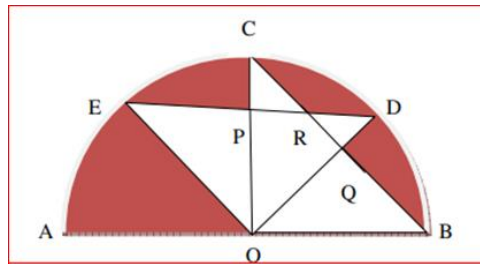


- $18\text{cm}^2$
- $28\text{cm}^2$
- $12\text{cm}^2$
- none of these

2. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be the new ratio of their salaries?

- a) 3 : 3 : 10                      b) 10 : 11 : 20                      c) 23 : 33 : 60                      d) Cannot be determined

3. In the figure, the area of the shaded region is  $44\text{cm}^2$ . O is the centre of the semi-circle.  $OE \perp OD$ ,  $OC \perp AB$  and  $OE = 7\text{cm}$ . Find the area of the region POQR (in sq cm).



- a)  $16\text{cm}^2$                       b)  $26\text{cm}^2$                       c)  $24\text{cm}^2$                       d)  $56\text{cm}^2$

4. If  $\frac{9^m \times 3^2 \times \left(\frac{-n}{3}\right)^{-2} - 27^n}{3^{3m} \times 2^3} = \frac{1}{27}$ , then find the value of m-n.

- a) 1                      b) 0                      c) -1                      d) 2

5. The ratio between the exterior angle and the interior angle of a regular polygon is 1:3. What type of polygon is this?

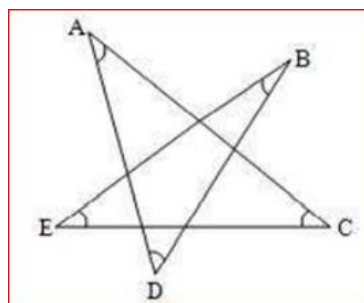
- a) Hexagon                      b) Pentagon                      c) Octagon                      d) Heptagon

6. A trader claims to sell his goods at cost price. However, he gives only 900g for every one kg. Find his profit percentage.

- a)  $11\frac{1}{9}\%$                       b)  $1\frac{1}{9}\%$                       c)  $10\frac{1}{9}\%$                       d) none of these

7. In the given figure,  $\angle A + \angle B + \angle C + \angle D + \angle E =$

- a)  $90^\circ$                       b)  $120^\circ$                       c)  $360^\circ$                       d)  $180^\circ$



8. If a fair coin is tossed twice, the probability of getting heads on both the trials is

- a)  $\frac{1}{4}$                       b)  $\frac{1}{2}$                       c)  $\frac{3}{4}$                       d) 1

9. The mean of 10 observations was found to be 28. Later, it was discovered that one observation 14 was misread as 24. Find the correct mean.

- a) 25                      b) 26                      c) 27                      d) 29

10. If a and b are positive integers such that  $a^b=125$ , then  $(a - b)^{a+b-4}$  is equal to

- a) 25                      b) 28                      c) 16                      d) 30

11. Which of the following statements relating to triangles ABC and DEF is not correct?

- If  $AB = DE$ ,  $BC = EF$  and  $\angle ABC = \angle DEF$ , then they are congruent
- If  $\angle ACB = \angle DFE = 90^\circ$ ,  $AB=DE$ ,  $AC=DF$ , then the triangles are congruent
- If  $\angle ABC = \angle DEF$ ,  $\angle ACB = \angle DFE$  and the areas of the triangles are equal, then they are congruent
- If  $\angle ABC = \angle DEF$ ,  $\angle ACB = \angle DFE$  and  $\angle BAC = \angle EDF$ , then the triangles are congruent

12. If  $x^4+1 = 1297$  and  $y^4-1 = 2400$ , then  $y^2 -x^2 =$  \_\_\_\_\_

- a) 13                      b) 10                      c) 12                      d) 20

13. The ratio of father's age to that of his son is equal to the ratio of the mother's age to that of her daughter. If the ages of mother, son and daughter be 48, 24 and 18 years respectively, then the age of the father is \_\_\_\_\_.

- a) 54 years                      b) 60 years                      c) 64 years                      d) 50 years

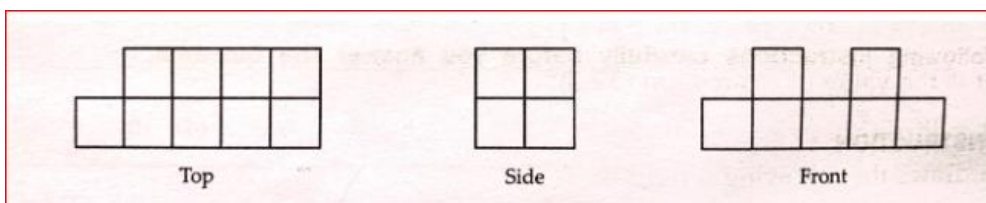
14. x,y and z are three sums of money such that y is the simple interest on x.z is the simple interest on y for the same time and the same rate of interest. Then, relation in x,y and z is

- a)  $x^2 =yz$                       b)  $z^2 =xy$                       c)  $y^2 =xz$                       d)  $xyz=1$

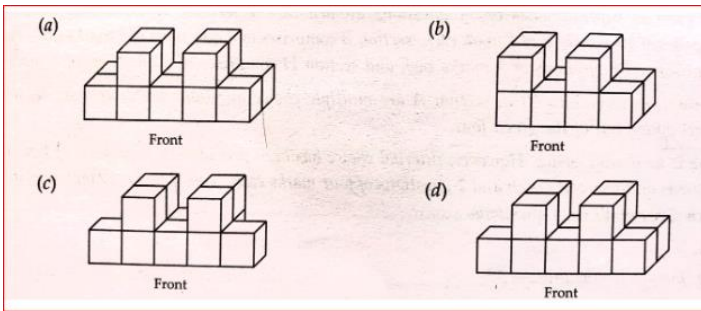
15. If  $\frac{P}{9} = 3 + \frac{1}{4 + \frac{1}{1 + \frac{1}{5}}}$ , then  $\frac{P}{9}$  is equal to

- a)  $\frac{93}{29}$                       b)  $\frac{47}{15}$                       c)  $\frac{101}{49}$                       d)  $\frac{55}{47}$

16. The top, side and front views of a solid figure made of cubes is shown below:



Which solid figure matches the views above?



17. If  $(2^{3x-1} + 10) \div 7 = 6$ , then x is equal to

- a) -2                      b) 0                      c) 1                      d) 2

18. If 3 men or 6 boys can finish a piece of work in 20 days, then how many days will 6 men and 8 boys require to finish the same work?

- a) 6 days                      b) 8 days                      c) 12 days                      d) 9 days

19. In  $\triangle ABC$ ,  $AB = AC$ . P and Q are points on AC and AB respectively such that  $CB = BP = PQ = QA$ . Find the measure of  $\angle AQP$  is

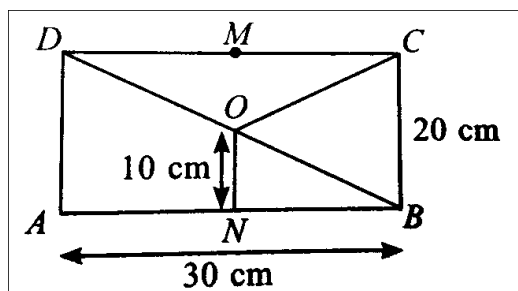
- a)  $128 \frac{4}{7}$  degrees                      b)  $28 \frac{4}{7}$  degrees                      c)  $8 \frac{4}{7}$  degrees                      d) none of these

20. What decimal of an hour is a second?

- a) 0.00029..... b) 0.000228..... c) 0.00027 .....d) 0.00026.....

**SUBJECTIVE**

1. ABCD is a rectangle. If N, O and M are the mid-points of AB, BD and CD respectively, then The area of (CBNO) : area of (ABCD) is \_\_\_\_\_



2. The digits of a two digit number differ by 3. If the digits are interchanged, the resulting number is added to the original number, we get 143. What is the original number?

3. Shalini has to cut out circles of diameter cm from an aluminium strip of dimensions 8 cm by 1cm. How many full circles can Shalini cut?

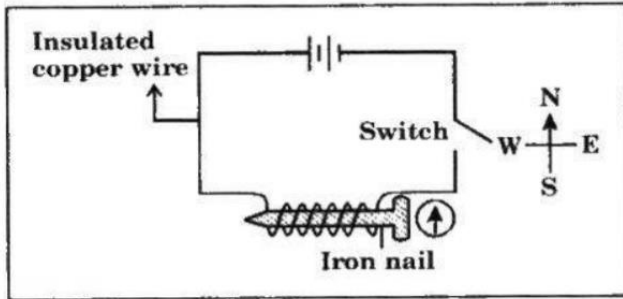
4. The total cost-price of two items is Rs.10,200/- and their selling-price are equal. If one of the two items is sold at a loss of 12% and another is sold at a loss of 18%, then find the cost price of the item which is sold at a loss of 18%.



**SECTION D  
SCIENCE**

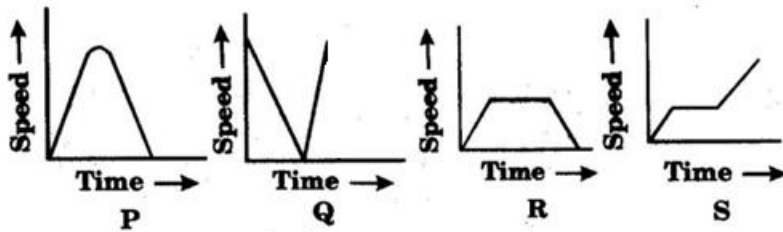
**OBJECTIVE**

1. Observe the figure given below.

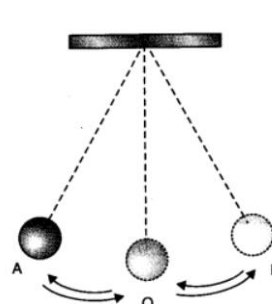


What will you observe in the compass shown in the figure when the circuit is switched ON.

- a) It points towards east
  - b) It points towards west
  - c) It points towards north
  - d) It points towards south
2. Keeping the incident ray fixed, if a plane mirror is rotated about an angle  $\theta$  about an axis lying in its plane, the reflected ray turns by the angle
- a)  $\theta$
  - b)  $2\theta$
  - c)  $\theta/2$
  - d)  $\theta/4$
3. Which of the following graphs represent the motion of a ball thrown up and then coming down?



- a) P
  - b) Q
  - c) R
  - d) S
4. Observe the figure given below. The ball takes 1 second position O to A. What will be the time period of the simple pendulum?



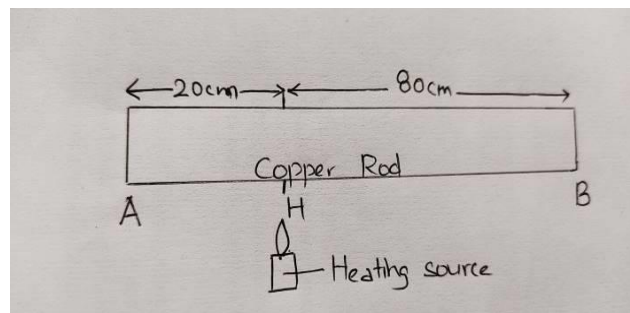
to move from oscillation by the

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

5. A driver was trying to park his car in the parking space. The rear view mirror of a car is a plane mirror. A driver while reversing his car at a speed of 4 m/s, sees in his rear view mirror the image of a truck parked behind his car. The speed at which the image of the truck appears to approach the driver will be:
- 1 m/s
  - 2 m/s
  - 4 m/s
  - 8 m/s

6. Observe the given set up and identify the true situation

- Heat will transfer equally from H to A and H to B.
- Heat will transfer more towards A
- Heat will transfer less towards B
- None of these.

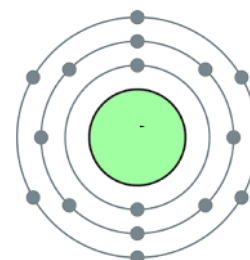


7. A metal X forms a water-soluble salt  $XNO_3$ . When an aqueous solution of  $XNO_3$  is added to common salt solution, then a white precipitate of compound Y is formed along with Sodium nitrate solution. Metal X is said to be the best conductor of electricity and it does not evolve hydrogen when put in dilute hydrochloric acid.
- Metal X is Silver, the salt is Silver nitrate and the compound Y is Silver chloride.
  - Metal X is Magnesium, salt is Magnesium nitrate and the compound Y is Magnesium chloride.
  - Metal X is Lead, salt is Lead Nitrate and the compound Y is Lead chloride.
  - Metal X is Copper, salt is Lead Nitrate and the compound Y is Lead chloride.
8. Which of the following gives the correct increasing order of acidic strength?
- Acid rain, Banana, Milk, Lemon juice
  - Banana, Acid rain, Milk, Lemon juice
  - Banana, Milk, Acid rain, Lemon juice
  - Milk, Banana, Acid rain, Lemon juice

9. Valence electrons in Sulphide ion is:

- 9
- 10
- 8
- 7

10. The period and group number of the periodic table in which an element with following electronic configuration can be put is:



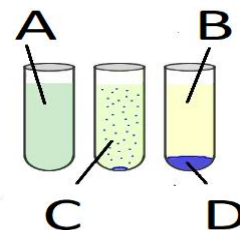
- 3, 2
- 2, 3
- 3, 16
- 2, 16

11. An ion of an element has 3 positive charges, 27 mass number and 14 neutrons. Find the number of electrons in this atom.

- a) 13                                      b) 10                                      c) 14                                      d) 15

12. The diagram given below is showing reaction between  $\text{Pb}(\text{NO}_3)_2(\text{aq})$  and  $2\text{KI}(\text{aq})$ . The labels A, B, C and D are showing:

- a) A- Solution of Lead nitrate and Potassium iodide, B-Supernate, C- Suspension, D-Solid lead  
 b) A-Solution of Lead nitrate and Potassium iodide, B- Supernate, C- Suspension, D-Precipitate of Lead iodide  
 c) A-Lead nitrate in water, B-Suspension, C-Precipitate of Lead iodide, D- Supernate  
 d) A-Potassium iodide in water, B-Supernate, C-Suspension, D-Precipitate of Lead iodide



13. Bacteria present in our mouth damage the tooth enamel if we eat sugary food items. Which of the following statements are correct reasons for the same?

- i. Enamel is basic in nature.  
 ii. Enamel is acidic in nature.  
 iii. Bacteria produce acidic substances.  
 iv. Bacteria produce basic substances.

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

14. Match the acids listed in column A with the acids found in food items listed in column B.

Acids	Food Items
i. Tartaric acid	a. Leafy vegetables
ii. Malic acid	b. Berries
iii. Ascorbic acid	c. Grapes
iv. Oxalic acid	d. Apple

- a) i-c, ii-d, iii-b, iv-a  
 b) i-b, ii-d, iii-a, iv-c  
 c) i-c, ii-d, iii-a, iv-b  
 d) i-c, ii-b, iii-a, iv-d

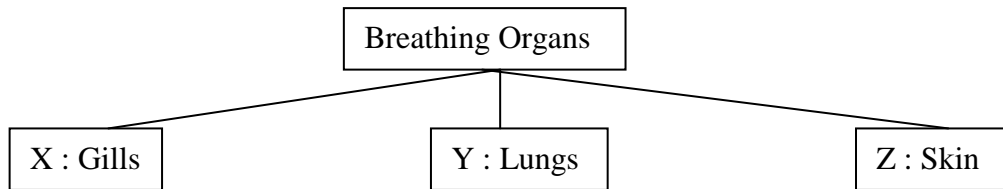
15. Which of the following compounds is used by farmers to treat acidic soils?

- a)  $\text{CaO}$                                       b)  $\text{CaCl}_2$                                       c)  $\text{NH}_4\text{NO}_3$                                       d)  $\text{NaCl}$

16. Balanced diet should have:

- a) Protein 1/5, fat 3/5, carbohydrate 1/5  
 b) Protein 3/5, fat 1/5, carbohydrate 1/5  
 c) Protein 1/5, fat 1/5, carbohydrate 3/5  
 d) Protein 1/2, fat 1/4, carbohydrate 1/4

17. The classification table given below shows how different organisms breathe.



Which of these organisms are correctly represented by X, Y and Z?

	X	Y	Z
a)	Tadpole	Whale	Earthworm
b)	Fish	Crocodile	Cockroach
c)	Frog	Shark	Toad
d)	Prawn	Grasshopper	Cockroach

18. The following investigation was carried out using flower buds growing on three plants of the same species:

**Plant 1** – The anthers were carefully removed and the buds left open to the air.

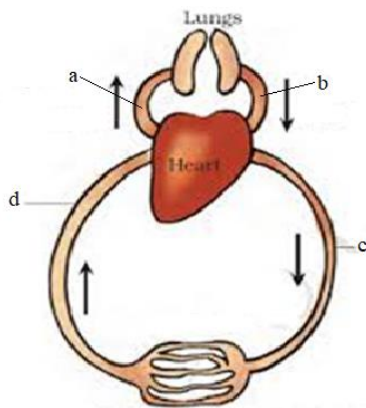
**Plant 2** – The anthers were left untouched and a paper bag was tied tightly around each bud.

**Plant 3** – The anthers were carefully removed and a paper bag was tied tightly around each bud.

Although all flowers later opened normally, only those on Plant 1 produced seeds. This result shows that in this plant species \_\_\_\_\_

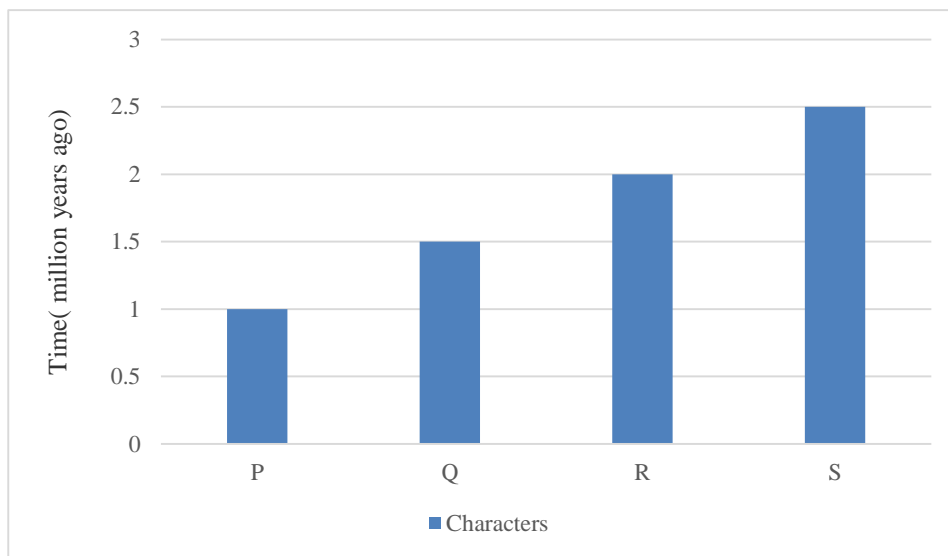
- Only cross-pollination can take place.
- Only wind-pollination can take place.
- Only insect-pollination can take place.
- Both self and cross-pollination can take place.

19. Match the correct options:



- a – pulmonary vein, b – aorta, c – vena cava, d – pulmonary artery
- a- aorta, b – pulmonary vein, c – pulmonary artery, d – vena cava
- a – pulmonary artery, b – pulmonary vein, c – aorta, d – vena cava
- a – vena cava, b – pulmonary artery, c- pulmonary vein, aorta

20. The given bar diagram represents the time period during which four characters P, Q, R and S evolved in an organism. Which character will serve as most basic for classification of this organism while which one will have least priority?

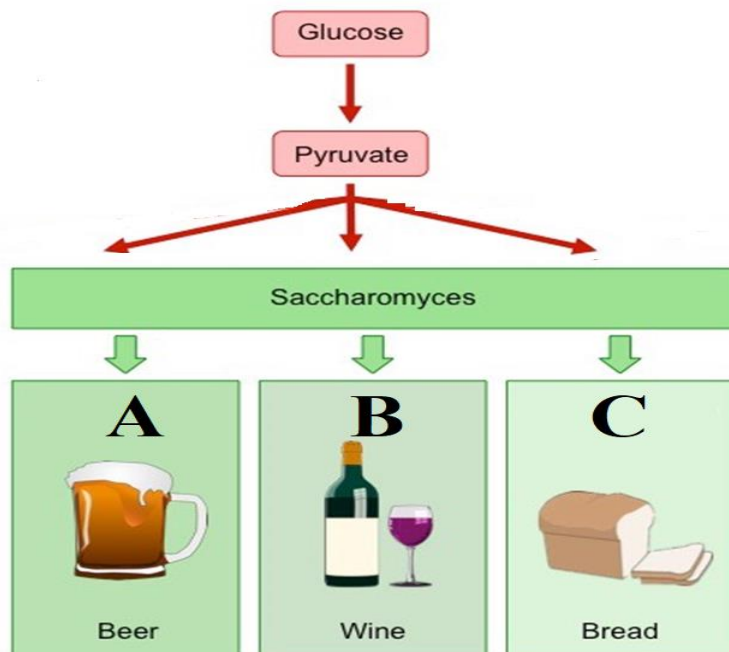


- a) R (most basic) and S (least important)
- b) S (most basic) and R (least important)
- c) P (most basic) and S (least important)
- d) S (most basic) and P (least important)

### SUBJECTIVE

1. In the junkyard, Ravi saw a huge plate holding junk metals. He noticed that the driver of the crane which was controlling the plate, suddenly switched the engine off and all the metal pieces fell down instantly. What do you think has happened?
2. The concave reflecting surface of a torch got rusted. What effect would this have on the beam of light from the torch?
3. Ram used the same fuse of 5A rating in a geyser and a television set? Did he do the right thing? Justify.
4. In a village in Karnataka, people started cultivating crops all around a lake which was always filled with water. They added fertilisers to their field in order to enhance the yield. Soon they discovered that the water body was completely covered with green floating plants and fishes started dying in large numbers. Analyse the situation and give reasons for excessive growth of plants and death of fish in the lake

5. Answer the following questions based on the following picture:



- Identify the chemical change brought by the Saccharomyces to produce the items shown in the picture.
- Name the products A, B and C of the chemical reaction used to prepare beer, wine and bread.
- Write the chemical equation to represent the chemical change that happens due to action of Saccharomyces on glucose.