

Reg. No. 

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## Second Unit Test, October - 2018

X Standard]

**SCIENCE**

[Time : 2-30 Hours

(Maximum Marks : 75)

**Section-I**Choose the correct answer from the alternatives given in the brackets :  $15 \times 1 = 15$ 

1. Cross pollination is important for producing ----- (a) new varieties of plants (b) plants with better growth (c) disease resistant plants (d) all of the above
2. Thin walled non-motile spores are called ----- (a) spirogyra (b) aplanospore (c) zoospore (d) akinete
3. Which type of the fruits have cremocarp ? (a) schizocarpic fruit (b) aggregate fruit (c) multiple fruit (d) simple fruit
4. You were given two unlabelled slides with blood smears of an amphibian and a mammal. You would differentiate the blood samples by observing the ----- (a) colour (b) nature of RBC's (c) nature of WBC's (d) contents of plasma
5. Thrombocytes are irregular broken pieces of certain giant cells of the ----- (a) bone marrow (b) liver (c) pancreas (d) spleen
6. ----- discovered the circulation of blood in man. (a) William Harvey (b) Arun Venkatraman (c) Sir Ronald Ras
7. A student tests the pH of pure water using a pH paper, it shows green colour, if a pH paper is used after adding lemon juice to water, what colour will he observe? (a) Green (b) Red (c) Yellow
8. The weak acid among the following is ----- (a) HCOOH (b) HNO<sub>3</sub> (c) CH<sub>3</sub>COOH (d) H<sub>2</sub>SO<sub>4</sub>
9. For human blood, the pH range is ----- to ----- (a) 4.5 - 6 (b) 6.7 - 7.5 (c) 7.35 - 7.45 (d) 4.4 - 5.5.
10. ----- is used as a medicine for stomach disorder. (a) Calcium Hydroxide (b) Magnesium Hydroxide (c) Ammonium Hydroxide
11. An electric current through a metallic conductor produces ----- around it. (a) magnetic field (b) mechanical force (c) induced current
12. The field of view is maximum for ----- (a) plane mirror (b) concave mirror (c) convex mirror
13. Who discovered electromagnetic induction? (a) Oersted (b) Faraday (c) Fleming
14. The distance of the principal focus from the optical centre of lens is called ----- (a) Focal Length (b) Radius of curvature (c) Principal focus
15. In Fleming's left hand rule, the thumb will point in the direction of ----- (a) magnetic field (b) direction of current (c) direction of motion

Answer any twenty questions :

**Section-II** $20 \times 2 = 40$ 

16. The methods of reproduction and the organisms are given below. Match the type of reproduction with the suitable organism.

Fission	Spirogyra	Yeast
Budding	Protozoans	Flatworms
Fragmentation	Bryophyllum	Bacteria



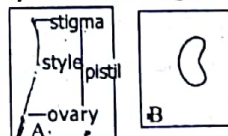
17. Draw the given diagram of paddy seed and label any two parts.

18. Reason and Assertion

Assertion (A): Bacteria continues to live as bacteria without much change for four million years.  
Reason (R): Bacteria is a unicellular organism

- a) A is correct and R is not giving correct reasoning. b) A is correct and R is wrong  
c) A is wrong and R is correct d) A is relevant and R is giving correct reasoning.
19. Give any two examples for each of the following cases where dispersal of fruits and seeds take place : (i) by birds (through excreta) (ii) by human beings

20. To label the parts in the given diagram. Copy the diagram and label the parts A and B.



21. What are the bio fuels for transportation?

22. Match the following

Excretory organ	Excretory products	Disposed as
Kidneys	Excess water and salt	Sweat
Lungs	Urea, Uric acid, Creatinine	Urine
Skin	Carbon dioxide and Water vapour	Expired air

23. Man uses his forelimb to hold an object and to write.
- 
- i) What are the uses of forelimb of horse ? ii) Write the use of forelimb of rat.

24. To find the odd one out Pick out the odd one out.
- 
1. Globulin, glomerulus, fibrinogen, albumin
- 
2. Mountaingoat, big homed sheep, grizzly bear, seal



25. Copy the diagram and label any four parts with heading.

26. The Master chemists of our body are the kidneys. Justify.

[P.T.O.]



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27. Mention any four adaptations seen in the camel so that it can live successfully in deserts.
28. The hydrogen ion concentration of a solution is  $1 \times 10^{-8}$  M. i) What is the pH of the solution?  
ii) What is the pOH of the solution?  
iii) Is the given solution, acidic or basic?
29. The pH values of certain familiar substances are given below:

Substance	pH value
Coffee	5.0
Lemon Juice	2.4
Household Ammonia	12.0
Tomato juice	4.1

- Analyse the data in the table and answer the following questions.
- i) Which substances are acidic in nature? ii) Which substances are basic in nature?
30. Read the redox reaction given below and answer the questions.  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$   
i) Conversion of CuO into Cu is called ----- . ii) Conversion of H<sub>2</sub> into H<sub>2</sub>O is called ----- .
31. Fill in the blanks.  
(Plaster of Paris, Baking soda, Common salt, Washing soda, Bleaching powder)

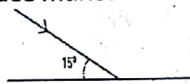
- i) NaCl : ----- . ii) Na<sub>2</sub>CO<sub>3</sub> : ----- . iii) NaHCO<sub>3</sub> : -----  
iv) CaOCl<sub>2</sub> : ----- . iv) CaOCl<sub>2</sub>.  $\frac{1}{2}$  H<sub>2</sub>O : -----

32. Why does the colour of copper sulphate change when an zinc rod is kept in it? Justify your answer
33. Fill the table with the appropriate words given in bracket.

-----	the tooth's	enlarged image
-----	rear side of the vehicle	erect image

- (Convex mirror, Plano convex, Concave mirror, Plane mirror, Convex lens, Concave lens)
34. In traffic signals ----- colour light is used to stop vehicles because it has ---- wave length.  
(Hint: scattering of light is inversely proportional to the fourth power of its wavelength)
35. Light which is incident on a flat surface makes an angle of 15° with the surface.

- i) What is the angle of incidence?  
ii) What is the angle of reflection?  
iii) Find the angle of deviation.



Radius of curvature (R)	$\frac{1}{f}$
Magnification of lens (m)	$\frac{\sin i}{\sin r}$
Power of lens (P)	$2f$
Refractive index (u)	$\frac{v}{u}$

36. Match the following
37. The distance between the pole and the principal focus of a spherical mirror is called the focal length. Is there any relationship between the radius of curvature R, and focal length f, of a spherical mirror?
38. What will happen when the frequency of rotation in an AC dynamo is doubled?
39. You know that myopia is a common refractive defects of vision. A person with this defect can clearly see only objects that are near. Using concave lens of suitable power this defect is corrected.  
i) Mention the other two types of defects. ii) Explain how they can be corrected.
40. Define Fleming's Right hand rule?

## Section-III

Answer any four questions by choosing one question from each part :  $4 \times 5 = 20$

## Part-I

41. A farmer has two fields A and B. He cultivates peas (*Pisum sativum*) in both the fields. Field A is covered with nets to keep out birds and insects. Field B is left uncovered.  
i) Name the type of pollination that would occur in field 'A' and field 'B'  
ii) Which of these fields will give a higher yield? iii) To raise the next crop, from which field should the seeds be chosen by the farmer. Give reason to support your answer
42. What is known as pollination? List out biotic and abiotic factors which are involved in pollination?

## Part-II

43. a) Define fertilization. b) What are the post-fertilization changes?  
c) What are parthenocarpic fruits?
44. Name the parts of a dicot seed based on the given clues:  
i) Rudimentary root ----- . ii) Rudimentary shoot ----- .  
iii) Fleshy structure storing food for the embryo ----- .  
iv) The outer protective layer of a seed is ----- .  
v) The minute opening seen in the seed coat is ----- .

## Part-III

45. An object of 5 cm tall is placed at a distance of 10 cm from a concave mirror of radius of curvature 30cm. i) Find the nature, position and size of the image  
ii) Draw the ray diagram to represent the above case
46. (a) Label the following in the given diagram of human eye.  
1. Retina 2. Iris 3. Crystalline lens 4. Aqueous humour 5. Pupil  
6. Ciliary muscles 7. Optic nerve. 8. Vitreous humour 9. Cornea  
(b) Mention the reasons for the defects of vision, myopia and hypermetropia



## Part-IV

47. Draw and explain in reflection of light through a prism.
48. a) Mention any three differences between electric motor and AC generator.  
b) Give the direction of induced current in the following figure (a) and (b)

