10th science sa2 original question paper(DUBAI)

7QHKW82

SUMMATIVE ASSESSMENT – II, 2016-17

SCIENCE

Class – X

Time Allowed : 3 hours　　　　　　　　　　　**Maximum Marks : 90**

General Instructions :

1. The question paper comprises of **two Sections, A and B**. You are to attempt **both the sections**.

2. **All questions are compulsory**

3. All questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.

4. Question numbers **1 to 3** in **Section-A** are one mark questions. These are to be answered in **one word** or in **one sentence**

5. Question numbers **4 to 6** in **Sections-A** are two marks questions. These are to be answered in about **30 words** each.

6. Question numbers **7 to 18** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each

7. Question numbers **19 to 24** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.

8. Question numbers **25 to 33** in **Section-B** are multiple choice questions based on **practical skills**. Each question is a **one mark** question. You are to select one most appropriate response out of the four provided to you.

9. Question numbers **34** to **36** in **Section-B** are questions based on practical skills. Each question is of two **marks**.

SECTION-A

1	Make the two possible carbon skeletons with five carbon atoms.	1
2	When a round seeded pea plant is crossed with a wrinkled seeded pea plant, what type of plant we get in F1 generation ?	1
3	Write any two consequences if decomposers are removed from the ecosystem.	1
4	Explain giving reason the type of lens used to correct the defect of vision hypermetropia.	2
5	Arrange the following substances under recycle and reuse categories : Glass, paper, plastic bottle, metallic objects.	2
6	There is a need to ban polythene bags completely. Explain this statement giving reasons.	2

7. Why should we prefer vegetable oils over animal fats for cooking food ? Give a balanced chemical equation for the reaction for hydrogenation of vegetable oils. Name the catalysts in this reaction.

8. How can a carboxylic acid and an alcohol be distinguished on the basis of their chemical property. Write any three differences.   3

9. (a) While washing clothes in washing machine the clothes are agitated in soap solution for some time. Why is this agitation necessary to clean the clothes ?   3

 (b) Why the detergents remain effective in hard water for washing clothes whereas with soap foam is formed with difficulty ?

10. When does the outermost shell of an element said to be complete. Name any three such elements which have completely filled outermost shells. Write their common name and justify the completion of outermost shell.   3

11. Why do human females produce only one type of gamete and males produce two types of gametes ?   3

12. A boy of 15 years has attached ear lobes and weighs 65 Kgs. Which of these is an acquired character and which is inherited ? Give reasons for your choice.   3

13. How does the bread mould, Rhizopus reproduce ? Draw the structure involved in reproduction. How is Rhizopus benefitted if it reproduces by this method.   3

14. In the diagram given below   3

 (a) Label parts A to D.

 (b) Define the process depicted in it

15. Human beings have eyes and planaria has eyespots.   3

 (a) Give one distinguishing feature between eyes and eyespot.

 (b) Name any one organism other than planaria having eyespot.

16. Explain Power of Accommodation. Explain in brief the near and the far point of an eye and give their values.   3

17 Which will have more converging power   **3**

(i)   A convex lens of focal length 5 cm or

(ii)   A convex lens of focal length 10 cm. Illustrate with the help of diagram.

18 Yamuna is polluted to such an extent that it is being compared with a drain. Crores of rupees are   **3**
being spent by the government to clean it.

(i)   Why is the coliform bacteria chosen to indicate the level of pollution in a river?

(ii)   Mention two major factors due to which the Yamuna has become polluted.

(iii)   How can we make people aware so that at least they do not worsen the condition?

19 The formulae of oxides of two elements X and Y are XO and Y_2O_3 respectively.   **5**

(a)   Find the valencies of X and Y.

(b)   Identify the groups in which they would be placed in the modern periodic table.

(c)   Name one more element belonging to each of these groups.

20 State the law of independent assortment. Explain this law with the help of a dihybrid cross   **5**
between round and yellow coloured seeded pea plant and wrinkled and green coloured seeded
variety.

21 (a)   Explain what happens if the egg is not fertilized in a female's body. What is the time   **5**
duration for this process ?

(b)   Explain the function of fallopian tube and uterus.

22 (a)   "The refractive index of rock salt is 1.54." What is meant by this statement?   **5**

(b)   Draw a ray diagram to show that the incident ray of light is parallel to emergent ray when
light falls obliquely on a side of a rectangular glass slab.

(c)   The refractive index of diamond is 2.42 and that of glass is 1.51. How much faster does
light travel in glass than in diamond?

23 (a)   Describe with the help of diagram an activity to show that white light is composed of   **5**
seven colours.

(b)   With the help of labelled diagram show how different colours ofspectrum can be
recombined.

24 (a)   Write any three differences between concave and convex mirror ?   **5**

(b)   Draw ray diagram to show what happens to a ray of light after reflection from a convex
mirror, if it :

(i)   is incident parallel to principal axis.

(ii)   incident at the pole.

SECTION - B

25. Soaps are prepared by the alkaline hydrolysis of the compounds:

   (a)   Salts   (b)   Carboxylic acids

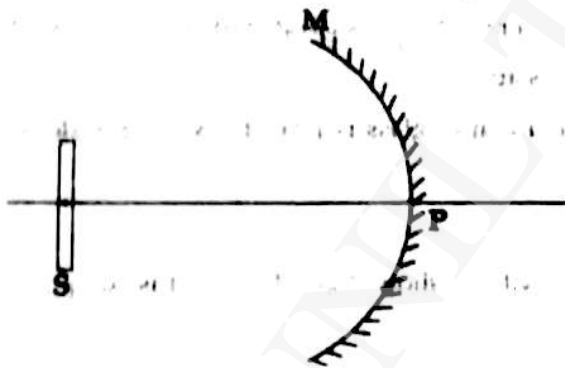   (c)   Esters   (d)   Alcohols

26. In the preparation of soap a red litmus paper changes its colour when dipped in soap solution.   1
The changed colour of litmus paper would be:

   (a)   blue   (b)   yellow

   (c)   green   (d)   orange

27. While demonstrating the cleansing action of soap, a teacher sets an apparatus with four test   1
tubes. She takes 10 ml of distilled water, tap water hand pump water and well water each in four
test tubes. She then adds 2 ml of liquid soap in all the test tubes and shakes them vigorously after
closing the mouth of each. The maximum length of foam can be seen in the test tube containing -

   (a)   distilled water   (b)   tap water

   (c)   hand pump water   (d)   well water

28. In the figure given below 'S' is the position of the screen on which a clear image of a distant object   1
is formed by the mirror M. The object is now moved closer towards the mirror by some distance
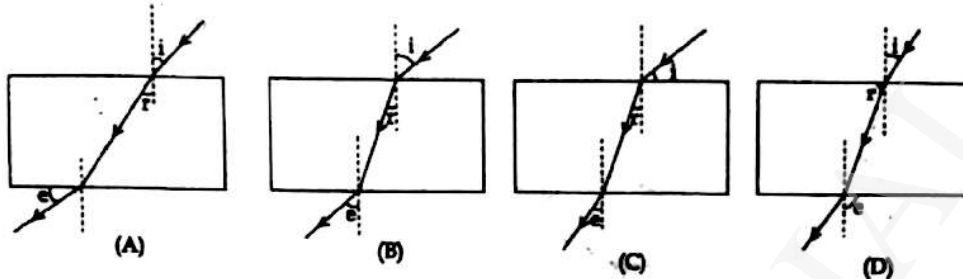'd'. If d << f, then to obtain clear image, the screen.

   (a)   should be moved towards the mirror.

   (b)   should be moved away from the mirror.

   (c)   need not to be moved.

   (d)   should be inclined relative to the axis.

29. To determine the focal length of convex lens, it is necessary for student   1
that :

   (a)   screen and lens should be held vertically.

(b)   wooden bench should be placed horizontally.

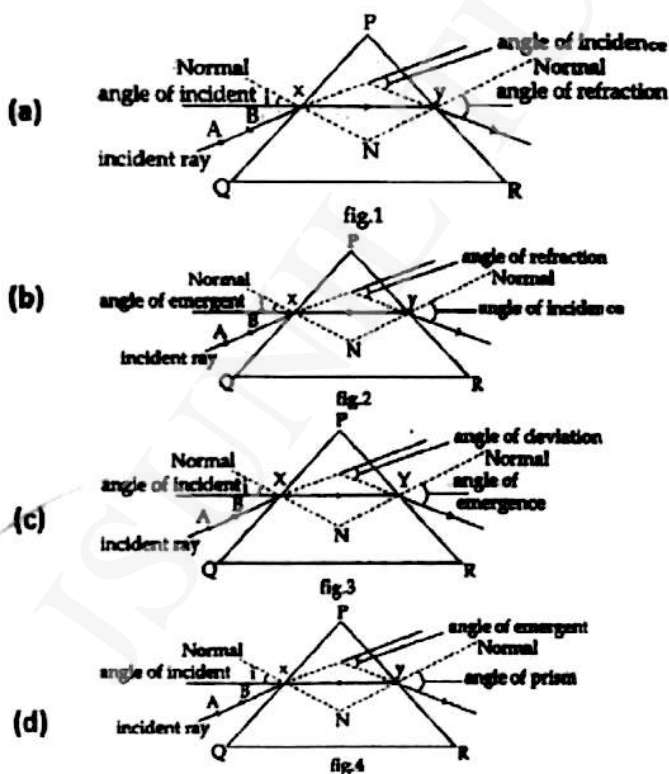(c)   Adjust the position of screen to get the sharp image.

(d)   All of these.

30 The path of a ray of light passing through a rectangular glass slab was traced and angles measured.   1

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

The correct representation of angle of incidence ∠i, angle of refraction ∠r and angle of emergence ∠e is shown in :

(a)   (A)   (b)   (B)

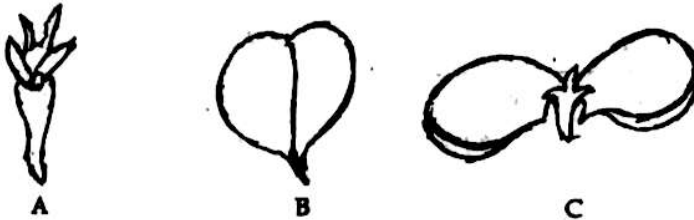(c)   (C)   (d)   (D)

31 Which of the following figures has been labelled correctly in an experiment to trace the path of   1
rays of light through a glass prism

32 The organ of human body homologous to forelimbs of Frog and Lizard 1
is :

(a) Legs   (b) Fingers

(c) Thigh   (d) Arm

33 Arrange the diagrams sequentially to observe the structure of a dicotyledonous seed.   1
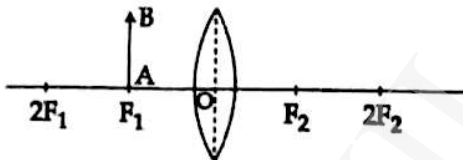

A   B   C

(a) A, C, B   (b) B, C, A

(c) C, B, A   (d) A, B, C

34 Out of the following list of chemicals, select those which are required to study the prescribed four 2
properties of Acetic acid in the laboratory litmus solutions (blue or red), water, Alcohol, sodium
chloride, sodium hydrogen carbonate, calcium hydroxide solution.

35 Draw a well labelled diagram of budding in yeast.   2

36 In the figure given an object has been placed at F_1. After refraction through convex lens the 2
image of the object will be formed. Write its nature, position and relative size of the image formed
in this case.

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Physics   4,16,17,22,23,24,28,29,30,31,36
Chemistry   1,7,8,9,10,19,25,26,27,34
Biology   2,3,5,6,11,12,13,14,15,18,20,21,32,33,35