

QB365
Model Question Paper - 3
10th Standard CBSE

Science

Reg.No. :

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Time : 02:00:00 Hrs

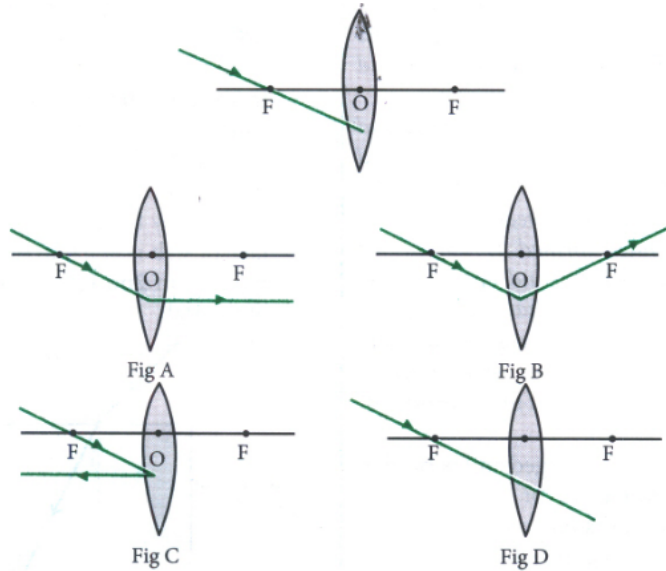
Total Marks : 100

Section - A

- 1) In a flower, the parts that produce male and female gametes (germ cells) are **1**
(a) stamen and anther (b) filament (c) anther and ovary (d) stamen and style
- 2) Characters transmitted from parents to offspring are present in **1**
(a) cytoplasm (b) ribosome (c) golgi bodies (d) genes
- 3) Reproduction is essential for living organisms in order to **1**
(a) keep the individual organism alive (b) fulfill their energy requirement (c) maintain growth
(d) continue the species generation after generation
- 4) Which among the following diseases is not sexually transmitted? **1**
(a) Syphilis (b) Hepatitis (c) HIV-AIDS (d) Gonorrhoea
- 5) Exchange of genetic material takes place in **1**
(a) vegetative reproduction (b) asexual reproduction (c) sexual reproduction (d) budding
- 6) Which of the following statement is incorrect? **1**
(a) For every hormone there is a gene (b) For every protein there is a gene
(c) For production of every enzyme there is a gene. (d) For every molecule of fat there is a gene.
- 7) From the list given below, select the character which can be acquired but not inherited **1**
(a) colour of eye (b) colour of skin (c) size of body (d) nature of hair
- 8) The theory of evolution of species by natural selection was given by **1**
(a) Mendel (b) Darwin (c) Morgan (d) Lamarck
- 9) Which of the following lenses would you prefer to use while reading small letters found in a dictionary? **1**
(a) A convex lens of focal length 50 cm (b) A concave lens of focal length 50 cm
(c) A convex lens of focal length 5 cm (d) A concave lens of focal length 5 cm
- 10) Magnification produced by a rear view mirror fitted in vehicles **1**
(a) is less than one (b) is more than one (c) is equal to one
(d) can be more than or less than one depending upon the position of the object in front of it.
- 11) In which of the following, the image of an object placed at infinity will be highly diminished and point sized? **1**
(a) Concave mirror only (b) Convex mirror only (c) Convex lens only
(d) Concave mirror, convex mirror, concave lens and convex lens

12) Which of the following ray diagram is correct for the ray of light incident on a lens shown in Figure?

1



(a) Fig. A (b) Fig. B (c) Fig. C (d) Fig. D

13) A person cannot see distinctly object kept beyond 2m. This defect can be corrected by using a lens of power

1

(a) +0.5D (b) -0.5D (c) +0.2D (d) -0.2D

14) The focal length of the eye lens increases when eye muscles

1

(a) are relaxed and lens becomes thinner (b) contract and lens becomes thicker
(c) are relaxed and lens becomes thicker (d) contract and lens becomes thinner

15) Which one of the following is an artificial ecosystem?

1

(a) Pond (b) Crop field (c) Lake (d) Forest

16) Flow of energy in an ecosystem is always

1

(a) Unidirectional (b) Bidirectional (c) Multi directional (d) No specific direction

17) Disposable plastic plates should not be used because

1

(a) They are made of materials with light weight (b) They are made of toxic materials
(c) They are made of biodegradable materials (d) They are made of non-biodegradable materials

18) The main cause for abundant coliform bacteria in the river Ganga is

1

(a) disposal of unburnt corpses into water (b) discharge of effluents from electroplating industries
(c) washing of clothes (d) immersion of ashes

19) The important message conveyed by the 'Chipko Movement' is

1

(a) to involve the community in forest conservation efforts
(b) to ignore the community in forest conservation efforts
(c) to cut down forest trees for developmental activities
(d) government agencies have the unquestionable right to order destruction of trees in forests

20) Opposition to the construction of large dams is due to

1

(a) social reasons (b) economic reasons (c) environmental reasons (d) all the above

Section - B

21) Why is vegetative propagation practised for growing some types of plant?

2

- 22) What would be the ratio of chromosome number between an egg its zygote? How is the sperm genetically different from the egg? 2
- 23) (a) In the human body what is the role of
(i) Seminal vesicles, and (ii) prostate gland? 2
(b) List two functions performed by testis in human beings.
- 24) Ganesh lives in a colony having lots of mosquitoes. One day the local health body sprayed insecticide to check the mosquito menace. However even after that some mosquitoes survived and grew. What explanation you can give for this fact? 2
(a) Mosquitoes become immune to insecticides as some are more healthy.
(b) Some mosquitoes are capable of metabolising insecticides.
(c) What other reason you can suggest?
- 25) Mention three important features of fossils which help in the study of evolution. 2
- 26) What are fossils? What do they tell us about the process of evolution? 2
- 27) Explain with examples, how the following are evidences in favour of evolution in organisms. 2
(i) Homologous organs
(ii) Analogous organs
(iii) Fossils.
- 28) Why do we prefer a convex mirror as a rear view mirror in vehicles? 2
- 29) State mirror formula. How does it change when object distance u from the mirror is changed? 2
- 30) Mention the types of mirrors used as 2
(i) rear view mirrors.
(ii) Shaving mirrors.
List two reasons to justify your answers in each case.
- 31) Why does the Sun appear early in the morning? 2
- 32) Why is the colour of the clear sky blue? 2
- 33) Name the three common defects of vision. What are their causes? Name the type of lens used to correct each of them. 2
- 34) Define the term, dispersion of white light. State the colour which bends
(1) the least, 2
(2) the most, while passing through a glass prism. Draw the dispersion of light through prism.
- 35) What will happen if we kill all the organisms in one trophic level? 2
- 36) Explain the phenomenon of "biological magnification" How does it affect organisms belonging to different trophic levels particularly the tertiary consumers? 2
- 37) Explain the different trophic level in an ecosystem by giving examples in pond and grassland. 2
- 38) List five things you have done over the last one week to (a) conserve our natural resources. (b) increase the pressure on our natural resources. 2
- 39) List any four advantages of water harvesting. 2
- 40) (a) List any two characteristics of a good fuel. 2
(b) What are non-renewable resources of energy? Give two examples of such resources.

Section - C

- 41) Distinguish between a gamete and zygote. Explain their roles in sexual reproduction. 5
- 42) (a) List three distinguishing features between sexual and asexual types of reproduction. 5
(b) Explain why variations are observed in the offspring of sexually reproducing organisms?
- 43) (a) Why did Mendel choose garden pea for his experiment? Write two reasons. 5
(b) List two contrasting visible characters of garden pea Mendel used for his experiment.
(c) Explain in brief how Mendel interpreted his results to show that the traits may be dominant or recessive.
- 44) (i) One half of a convex lens of focal length 10 cm is covered with a black paper. Can such a lens produce an image of a complete object placed at a distance of 30 cm from the lens? Draw ray diagram to justify your answer. 5
(ii) A 4 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 20 cm. The distance of the object from the lens is 15 cm. Find nature, position and size of the image.
- 45) (a) Explain the following terms used in relation to defects in vision and correction provided by them: 5
(i) Myopia (ii) Astigmatism
(iii) Bifocal lenses (iv) Far-sightedness.
(b) Why is the normal eye unable to focus on an object placed within 10 cm from the eye?
- 46) Suggest any four activities in daily life which are eco-friendly. 5
- 47) (a) What is an ecosystem? List its two main components. 5
(b) We do not clean ponds or lakes, but an aquarium needs to be cleaned regularly. Explain.
- 48) Why is Government of India imposing a ban on the use of polythene bags? Suggest two alternatives to these bags and explain how this ban is likely to improve the environment. 5
