

# CBSE

## Sample Question Paper 1

### Biology

#### Class XII

Time : 3 hrs

Maximum Marks : 70

#### General Instructions

- (i) There are total 26 questions in five sections in the question paper. All questions are compulsory.
- (ii) Section A contains questions number 1 to 5, very short answer type questions of one mark each.
- (iii) Section B contains questions number 6 to 10, short answer type-I questions of two marks each.
- (iv) Section C contains questions number 11 to 22, short answer type-II questions of three marks each.
- (v) Section D contains question number 23, value based question of four marks.
- (vi) Section E contains questions number 24 to 26, long answer type questions of five marks each.
- (vii) There is no overall choice in the question paper, however, an internal choice is provided in one question of two marks, one question of three marks and all the three questions of five marks. In these questions, an examinee is to attempt any one of the two given alternatives.

#### SECTION A

(1 × 5 = 5)

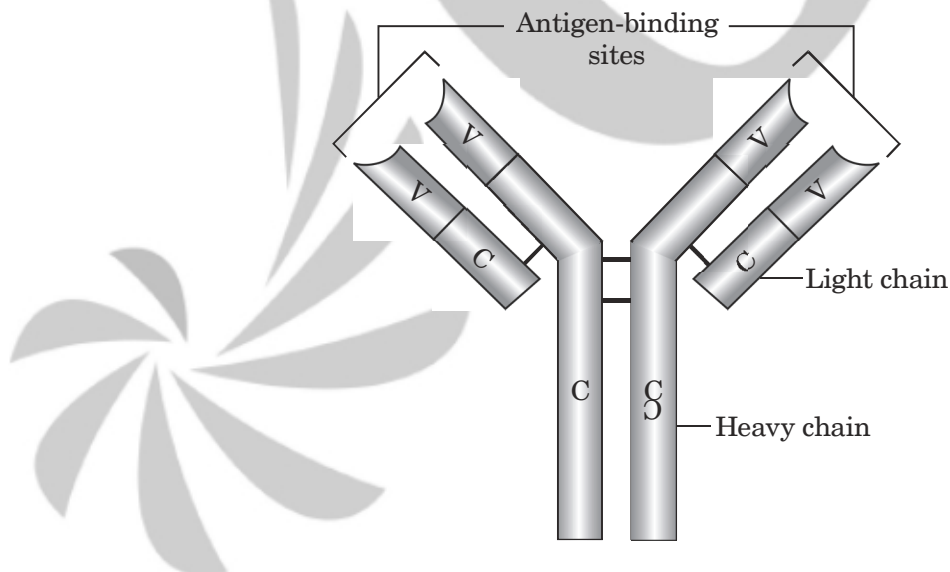
1. What is perisperm in black pepper?
2. Write down two special features of climax community.
3. State the role of Sertoli cells in Spermiation.

4. After a successful in-vitro fertilisation, the fertilised egg begins to divide. What is this technique named? At which stage are the cells, when they are transferred to the female uterus?
5. State a difference between a gene and an allele.

### SECTION B

(2 × 5 = 10)

6. Write the difference between two types of autogamous flowers with examples.
7. Differentiate between male and female heterogamy in humans.
8. Mention a product of human welfare obtained with the help of each one of the following microbes:
  - (a) *Clostridium butylicum*
  - (b) *Saccharomyces cerevisiae*
  - (c) *Propionibacterium sharmanii*
  - (d) *Streptococcus*
9. Draw the structure of Antibody molecule and label its parts



10. Name the causative organism of the disease malaria. List one symptom of the disease, one vector, and the species which causes malignant malaria.

OR

Differentiate between two types of tumors.

**SECTION C****(3 × 12 = 36)**

11. Describe the role of oxytocin in foetal ejection reflex.
12. Give an example of a sex linked recessive trait in humans and the affected offsprings. Explain its pattern of inheritance with the help of a cross.
13. Which experiments disapprove the theory of spontaneous generation? Explain with diagram.
14. Suggest and describe a technique to obtain multiple copies of a gene of interest in vitro
15. Name the causative organism for Typhoid, disease symptoms and the diagnostic test.
16. What are the ecosystem services provided free of cost and what shall be the estimated costs?
17. List advantages of GMOs to a farmer.
18. How has RNAi technique helped to prevent the infestation of roots in tobacco plants by a nematode *Meloidogyne incognite*.

OR

Prior to a sports event blood and urine samples of sports person are collected for drug tests.

- (a) Why is this test conducted?
  - (b) Name the drugs the authorities usually look for?
  - (c) Write the generic names of two plants from which these drugs are obtained?
19. Name the three types of IUDs.
  20. Given below is a list of six micro-organisms. State their usefulness to humans. (3)
    - (a) Nucleopolyhedrovirus
    - (b) *Saccharomyces cerevisiae*
    - (c) *Monascus purpureus*
    - (d) *Trichoderma polysporum*
    - (e) *Penicillium notatum*
    - (f) *Propionibacterium shermanii*

21. What is passive immunity? How does mother's milk provide passive immunity? State another example of passive immunity.
22. Write the function of each one of the following:
- (a) Contact inhibition
  - (b) Interferons
  - (c) Placenta

OR

How are the following formed and involved in DNA packaging in a nucleus of a cell?

- (i) Histone octamer
- (ii) Nucleosome
- (iii) Chromatin

**SECTION D**

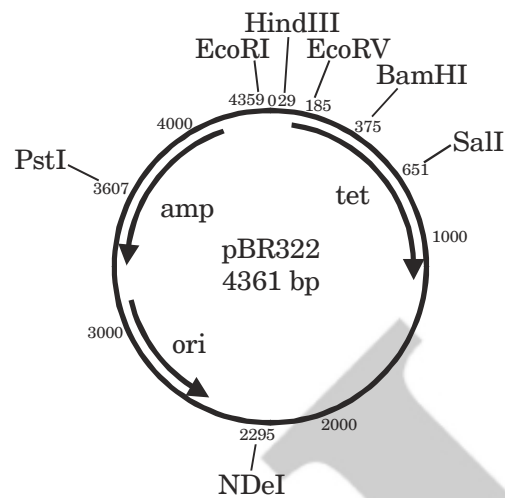
(4 × 1 = 4)

23. It is commonly observed that parents feel embarrassed to discuss freely with their adolescent children about sexuality and reproduction. The result of this parental inhibition is that the children go astray sometimes.
- (a) Explain the reasons that you feel are behind such embarrassment amongst some parents to freely discuss such issues with their growing children.
  - (b) By taking one example of a local plant and animal, how would you help these parents to overcome such inhibitions about reproduction and sexuality?

**SECTION E**

(5 × 3 = 15)

24. Draw a schematic sketch of pBR 322 plasmid and label the following in it:
- (i) antibiotic resistant gene-Ampicillin
  - (ii) antibiotic resistant gene-Tetracyclin
  - (iii) Origin of replication
  - (iv) Any two restriction sites in Tetracyclin
  - (v) Any two restriction sites outside Tetracyclin gene



OR

Explain the role of lactose as an inducer in a lac operon with a diagram.

25. (a) Why should we conserve biodiversity? How can we do it?  
 (b) Explain the importance of biodiversity hot-spots and sacred groves.

OR

- (a) There are three kinds of age-pyramids for human populations. Represent them diagrammatically.  
 (b) Name the two sedimentary cycles working in nature.
26. Explain the post-pollination events leading to seed production in angiosperms.

OR

Diagrammatically represent the events of menstrual cycle showing pituitary hormone levels, ovarian events, ovarian hormones, uterine events, menstruation phase and luteal phase, developing graafian follicle, mature Graafian follicle, Developing corpus luteum and mature corpus luteum.