

Human Health and Disease — CBSE Pattern Test 2

Class 12 Biology · 90 minutes · 40 marks · Sections A–D with answer key · Narayan Gurukul Academy

Test 2 — CBSE Pattern (90 minutes, 40 marks)

Class 12 Biology · Human Health and Disease · Narayan Gurukul Academy (ClassApna)

General Instructions: (1) This paper has four sections — Section A (1×10), Section B (2×4), Section C (3×4) and Section D (5×2) — total 40 marks. Time allowed: 90 minutes.
(2) All questions are compulsory. No overall choice is given; internal choice, where allowed, is clearly marked.
(3) For MCQ questions choose the single correct option; for VSA answers write a single line.
(4) Take $g = 10 \text{ m/s}^2$. All symbols carry their usual meaning. Use of a calculator is not permitted.

Section A — MCQ & VSA ($10 \times 1 = 10$ marks)

- The cells that produce antibodies are
 - B cells
 - T cells
 - macrophages
 - platelets
- Vaccination produces
 - active immunity
 - passive immunity
 - allergy
 - autoimmunity
- Cancer-causing agents are called
 - carcinogens
 - oncogenes
 - antibodies
 - antigens
- HIV is transmitted by
 - unsafe sex
 - air
 - water
 - food
- Ringworm is caused by
 - fungi
 - bacteria
 - virus
 - protozoa
- T cells mature in the
 - thymus
 - bone marrow
 - spleen
 - liver
- The substance that triggers an allergy is the
 - allergen

- (B) antibody
 - (C) antigen
 - (D) vaccine
8. Drug abuse affects the
- (A) nervous system
 - (B) skeletal system
 - (C) digestive system
 - (D) respiratory system
9. Name the pathogen of typhoid.
10. What is cancer?

Section B — Short Answer I (4 × 2 = 8 marks)

11. What does HIV stand for?
12. What is the role of reverse transcriptase in HIV?
13. Name one carcinogen.
14. Name one effect of alcohol abuse.

Section C — Short Answer II (4 × 3 = 12 marks)

15. Describe the barriers of innate immunity.
16. Explain the types of acquired immunity.
17. Describe the replication of HIV in the human body.
18. Describe the effects of drug and alcohol abuse.

Section D — Long Answers (2 × 5 = 10 marks)

19. (a) Describe allergies and autoimmunity with examples. (b) Explain the process of vaccination.
20. (a) Describe the causes of cancer. (b) Explain AIDS and its prevention.

Answer Key (Marking Scheme)

- Q1 — (A) B cells. Q2 — (A) active immunity. Q3 — (A) carcinogens. Q4 — (A) unsafe sex. Q5 — (A) fungi. Q6 — (A) thymus. Q7 — (A) allergen. Q8 — (A) nervous system.
- Q9 — Salmonella typhi.
- Q10 — Cancer is uncontrolled cell division.
- Q11 — Human Immunodeficiency Virus.
- Q12 — It makes DNA from viral RNA.
- Q13 — Tobacco (or radiation).
- Q14 — Liver damage (or addiction).
- Q15 — Physical, physiological, cellular and cytokine barriers.
- Q16 — Active and passive immunity.
- Q17 — HIV → reverse transcriptase → DNA → integration → helper T-cell destruction.
- Q18 — They affect the nervous system and cause addiction and organ damage.

Q19 — (a) Allergy: IgE against allergens; autoimmunity: immunity against self (rheumatoid arthritis). (b) A weakened antigen produces antibodies and memory cells.

Q20 — (a) Carcinogens such as radiation, tobacco and chemicals. (b) HIV is transmitted by unsafe sex, infected blood and mother to child; prevented by safe practices and awareness.