SmartKalike

CBSE Class 12 · Biology

Human Health and Disease

10 most probable questions for Boards 2027

Q1. 1 mark · Multiple choice

In humans, the infectious form of Plasmodium is introduced by an infected female Anopheles mosquito. Which sequence correctly describes its initial course in the human body?

(A) Red blood cells → liver cells → rupture of liver cells

(B) Liver cells → red blood cells → rupture of red blood cells

(C) Lungs → liver cells → rupture of alveoli

(D) Intestine → red blood cells → rupture of white blood cells

Answer

(B) Liver cells → red blood cells → rupture of red blood cells — sporozoites initially multiply in liver cells and then attack and rupture red blood cells.

Q2. 2 marks · Short answer

What are pathogens? Name the causative organism of malaria and identify the species that causes its most serious, potentially fatal form.

Answer

Pathogens are disease-causing organisms that produce infectious diseases in humans. Malaria is caused by the protozoan Plasmodium; Plasmodium falciparum causes malignant malaria, the most serious form, which can be fatal.

Q3. 3 marks · Medium answer

(a) What causes the recurring chills and high fever of malaria, and at what interval do they typically recur? (2)

(b) Name the causative organism of typhoid and the test used to confirm it. (1)

Answer

1. Rupture of infected red blood cells releases the toxic substance haemozoin, which causes the chills and high fever of malaria; these symptoms recur every three to four days.
2. Typhoid in human beings is caused by the pathogenic bacterium Salmonella typhi, and the Widal test is used to confirm typhoid fever.

Q4. 4 marks · Long answer

Describe the serious outcomes of excessive drug doses, including the possible causes of coma and death. Explain why combining drugs or taking them with alcohol can be especially dangerous.

Answer

Drug and alcohol abuse can produce immediate adverse effects, while excessive doses may be

fatal.
1. Excessive doses of drugs may lead to coma and death. These outcomes may occur due to respiratory failure, heart failure or cerebral hemorrhage.
2. A combination of drugs generally results in overdosing and may even cause death. Combining drugs therefore carries a serious risk of a fatal overdose.
3. Taking drugs along with alcohol is also dangerous. Their intake together generally results in overdosing and may even lead to death.
4. Immediate adverse effects also include reckless behaviour, vandalism and violence. Drug and alcohol abuse can cause mental and financial distress to the abuser's entire family and friends. Thus, excessive doses and combined intake can have life-threatening consequences.

Q5. 5 marks · Long answer

Explain how the loss of contact inhibition leads to tumour formation. Distinguish between benign and malignant tumours, and name and explain the property by which malignant tumour cells spread to distant parts of the body.

Answer

Normal cells show contact inhibition: contact with other cells inhibits their uncontrolled growth. Cancer cells lose this property and continue to divide, forming masses of cells called tumors.

1. Location — Benign tumors: usually remain confined to their original location; malignant tumors: invade and damage surrounding normal tissues.
2. Growth and damage — Benign tumors: cause little damage; malignant tumors: grow very rapidly and compete with normal cells for vital nutrients.
3. Spread — Benign tumors: do not spread to other parts of the body; malignant tumors: cells can travel through blood and form new tumors at distant sites. This property of malignant tumors is called metastasis.

Q6. 1 mark · Multiple choice

Which option correctly matches amoebiasis with its causative organism and usual site of infection?
(A) Entamoeba histolytica — large intestine
(B) Ascaris — lungs
(C) Wuchereria — stomach
(D) Plasmodium — large intestine

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/biology/human-health-and-disease

Q7. 2 marks · Short answer

State one causative organism of pneumonia and the part of the lungs it affects. Name the virus that causes the common cold and state whether it infects the lungs.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/biology/human-health-and-disease

Q8. 3 marks · Medium answer

(a) Explain how houseflies can transmit Entamoeba histolytica to humans. (1)
(b) Name the parasite that causes ascariasis, state how infection is acquired, and give one symptom. (2)

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/biology/human-health-and-disease

Q9. 5 marks · Long answer

Explain the early course of HIV infection by stating (i) the usual time lag between infection and appearance of AIDS symptoms, (ii) how HIV forms viral DNA in macrophages and how this DNA leads to production of virus particles, and (iii) why infected macrophages act as HIV factories.

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Q10. 1 mark · Multiple choice

An autoimmune disease results when the body:
(A) attacks its own cells, causing damage
(B) produces antibodies only against viruses
(C) cannot distinguish among different pathogens
(D) destroys all foreign molecules before they enter the body

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/biology/human-health-and-disease

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