Class IX Biology Sample Question Paper

Full Marks: 80 Time: 2 hours

1. Attempt all questions from Section A and **any four** questions from Section B.
2. You may have to refer to the diagram sheet at the end of the question paper for answering certain questions from Section A as well as from Section B.
3. **Do not** copy any diagrams from the diagram sheet.

Section A (40 marks)

Question 1

a) Name the following: 5 marks

i) The specific term for the study of reptiles.
ii) The person also known as the 'Father of Medicine'.
iii) The branch of biology concerned with the study if the entire DNA sequence of organisms.
iv) The phase of cellular respiration that occures aerobically.
v) The part of the brain that contains the respiratory centre.

b) State whether the following statements are true or false. If false, correct the statement by changing the first or last word(s) only: 5 marks

i) *Aedes* mosquito causes filaria.
ii) The pathogen present in tannery wastes is *Shigella*.
iii) Hepatitis B can be transmitted through tears.
iv) The mosquito has a proboscis which cannot pierce but can only suck.
v) The housefly is an agent which acts an intermediate carrier of a pathogen.

c) Given below are five sets of four terms each. In each case, rewrite the terms in logical sequence as directed at the end of each set: 5 marks

i) Secondary consumer, Secondary Carnivore, Producer, Primary consumer (Trophic levels of a food chain)
ii) Grasshopper, Crow, Lizard, Grass (Correctly arranged food chain)
iii) Molars, Canines, Incisors, Premolars (Increasing order of number)
iv) Lipase, Pepsin, $NaHCO_3$, Ptaylin (Order of action on food to digest it)
v) Stomach, Glottis, Caecum, Duodenum (Paths through which food passes)

d) There are five sets consisting of four terms given below. In each set, there is a word which is an odd one. For each of these sets, pick the odd one out and state the category of the rest: 5 marks

i) Sucrose, Fructose, Glucose, Galactose
ii) Chlorine, Magnesium, Copper, Calcium
iii) Osteomalacia, Scurvy, Pellagra, Anaemia
iv) Goitre, Rickets, Anaemia, Cretinism
v) Calcium, Potassium, Phosphorus, Sulphur

e) Choose the correct answer to the following statement out of the three choices given after each statement: 5 marks

i) The number of ATP molecules released on complete oxidation of 1 mole of glucose:
1. 36
2. 38
3. 39

ii) A hollow cartilaginous structure located at the beginning of the trachea:
1. Epiglottis
2. Oesophagus
3. Larynx

iii) A condition caused by the accumulation of carbon dioxide in blood:
1. Suffocation
2. Asphyxiation
3. Hypoxia

iv) The fluid providing lubrication for the free movement of the lungs:
1. Pleural fluid
2. Visceral fluid
3. Lymph

v) The phase of cellular respiration in which H^+ ions are released:
1. Krebs cycle
2. Glycolysis
3. Electron transport

Refer to the diagram sheet at the end of the question paper for <u>Question 1 part (f)</u>.

f) Study Fig 'A' very carefully and answer the following questions: 2+1+2=5 marks

i) Name the parts labelled 1 to 4.
ii) Give one function each of parts labelled 1 and 3.
iii) Describe the structure of the part labelled 2.

g) Given below are five terms with a blank next to each of them. Fill in the blanks with their special functional activity <u>within 6 words</u>: 5 marks
eg. : Ribosomes and <u>protein synthesis</u>

i) Enamel and .....
ii) Peristalsis and .....
iii) Rennin and .....
iv) Villi and .....
v) Enterokinase and .....

h) Explain the following terms briefly: 5 marks

i) Pyramid of Biomass
ii) Fauna
iii) Composting
iv) Sludge
v) Scrubber

Section B (40 marks)

Question 2: 5+5=10 marks

Refer to the diagram sheet at the end of the question paper for Question 2 part (a).

a) Study Fig 'B' very carefully and answer the following questions-
i) Identify what type of cell it is and give two reasons for your answer.
ii) Name the parts labelled 1 to 4 and describe the function of **any two.**

b) Give the location and function of the following structures-
i) Protective tissue
ii) Cambium
iii) Tracheids
iv) Cartilage
v) Dendron

Question 3: 5+5=10 marks

a) Explain the following terms-
i) Stock
ii) Somatic Cell Hybridization
iii) Layering
iv) Explant
v) Biotechnology

b) Answer the following questions-
i) Give any two advantages each of self-pollination and cross-pollination.
ii) Describe the pollen grain.
iii) Give two characteristics of hydrophilous flowers and also give an example.

Question 4: 5+5=10 marks

Refer to the diagram sheet at the end of the question paper for Question 4 part (a).

a) Study Fig 'C' very carefully and answer the following questions-
i) Identify which type of seed it is and support your answer with two reasons.
ii) Give the function of parts labelled 1 and 3.
iii) What type of germination is noticed in this seed? Name two other seeds which show this type of germination.

b) i) How will you prove that heat is evolved during respiration in plants? Draw and

explain.
ii) Explain the different types of metabolic activities shown by living organisms.

Question 5: 5+5=10 marks

Refer to the diagram sheet at the end of the question paper for Question 5 part (a)

a) Study Fig 'D' a,b,c&d and answer the following questions-
i) Identify the phylum of the given animals. Also give the class of the organism in part (d) of the diagram.
ii) Mention two features of **any three** phylum mentioned by you in Q.5(a)(i).

b) Write brief notes on **any five** of the following-
i) Structure of a bacterial cell
ii) Sexual reproduction in bacteria
iii) Penicillin
iv) Criteria of a good antibiotic
v) Structure of and mode of nutrition in yeast
vi) Steps involves in mushroom cultivation
vii) Bread-making

Question 6: 5+5=10 marks

Refer to the diagram sheet at the end of the question paper for Question 6 part(a).

a) Study Fig 'E' very carefully and answer the following questions-
i) Name the bones labelled 1 to 4.
ii) What type of joint is present between the bones labelled 1 and 2? Describe the structure of that joint.

b) Write short notes on **any five** of the following-
i) Colouration of the skin
ii) Albinism
iii) Piloerection
iv) Blackhead
v) Mammary gland
vi) Vasodialation
vii) Functions of hair growth at different places

Question 7: 3+2+5=10 marks

Refer to the diagram sheet at the end of the question paper for Question 7 part (a).

a) Study Fig 'F' carefully and answer the following: What is the aim of the experiment shown? Describe the experiment.

b) How will you show the presence of protein in any food item?

c) Answer the following questions-
i) What do you mean by 'incubation period'? Support your answer with an example.

ii) Mention two symptoms each of Tetanus and Syphillis.
iii) How does a tapeworm cause Taeniasis?
iv) Explain how Polio can be prevented.
v) Mention the mode of transmission of Rabies and AIDS.

ALL THE BEST!

DIAGRAM SHEET - 1

Sec B
Q2. a)

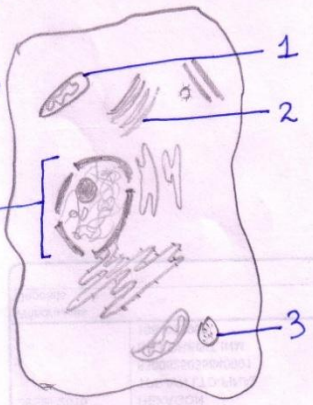

FIG 'B'

Sec A
Q1. f)

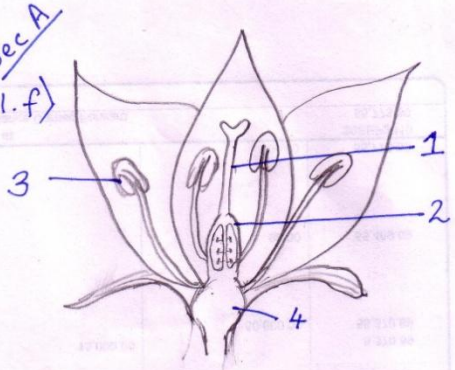

FIG 'A'

Sec B
Q4. a)

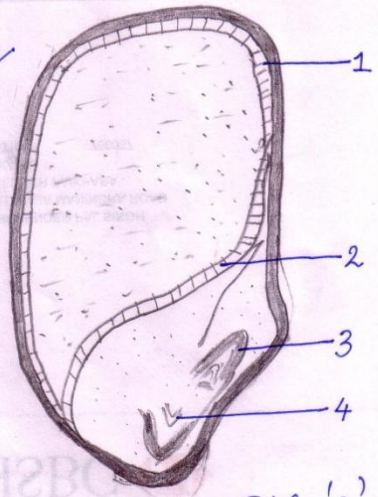

FIG 'C'

DIAGRAM SHEET-2

sec B
Q5.a)

FIG 'D' (a)

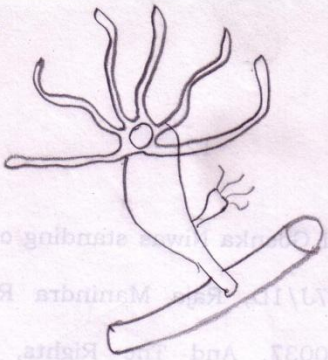

FIG 'D' (b)

FIG 'D' (c)

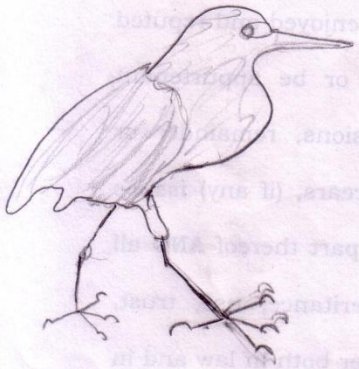

FIG 'D' (d)

sec B
Q6.a)

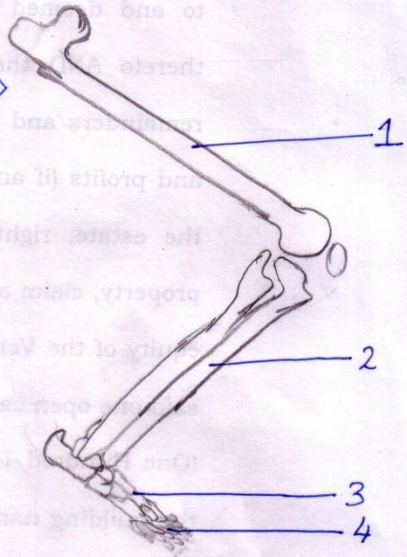

FIG 'E' : HINDLIMB OF THE HUMAN SKELETON

sec B
Q7.a)

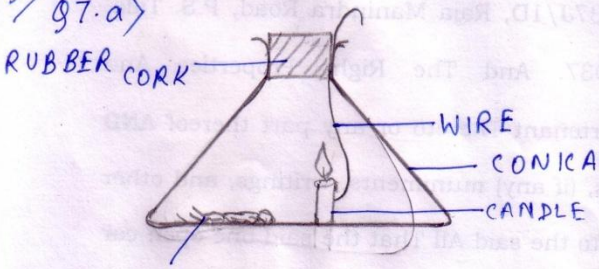

FIG 'F'