

# GUESS PAPER 2025

## BIOLOGY – 11<sup>th</sup>

فرسٹ ایئر بائیولوجی

- **FSC (PRE MEDICAL)**

پنجاب کے تمام بورڈز ( لاہور، ملتان، گوجرانوالہ، سرگودھا، ڈیرہ  
غازی خان، فیصل آباد، ساہیوال) کے نوٹس، گیس پیپرز، چیپٹر وائز  
ٹیسٹ، ہاف بک ٹیسٹ، فُل بک ٹیسٹ کے لیے ہماری ویب سائٹ  
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1<sup>st</sup> year BIOLOGY guess paper

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#### UNIT # 1

##### SHORT QUESTIONS

- How does theory differ from law?
- Differentiate b/w chemotherapy, radiotherapy and gene therapy?
- Differentiate b/w population and community?
- What is integrated disease management?
- What is hydroponic culture technique? Give its importance?
- Write a note on vaccination?
- Define biome with an example?
- Define phyletic lineage & biodiversity?
- Differentiate b/w deductive reasoning & inductive reasoning?
- What is Biome?
- Write the name of four eras of geological times?
- Difference b/w deductive & inductive reasoning?
- What is parasitology?
- Define ecosystem?

#### Unit # 2

##### SHORT QUESTIONS

- Give importance of biochemistry?
- Define biochemistry?
- Differentiate b/w glycosidic & peptide bond?
- Define lipids?
- Give two roles of waxes?
- Differentiated b/w saturated and unsaturated fatty acid?
- Draw structure of lecithin?
- Draw glycosidic bond?
- What is heat capacity of water also give its importance?
- What are oligosaccharides?
- What are globular proteins?
- What is phosphodiester linkage? Sketch?
- Difference b/w nucleoside & nucleotide?
- Give the general formula of amino acid?
- Difference b/w amylose & amylopectin?
- Define protective role of water?

#### Unit # 3

##### SHORT QUESTIONS

- What is the active site of an enzyme?
- Differentiate b/w apoenzyme and holoenzyme?
- What are cofactor and activator of an enzyme?
- Write four characteristics of enzymes?
- How does an enzyme accelerate a metabolic rate?
- What is induced fit model? Who proposed it?
- Write the effect of temperature on enzyme activity?
- What is the role of PH in enzyme action?
- Give the PH value of any two enzymes?
- What are enzymes inhibitors also give examples?
- Differentiate b/w reversible and irreversible enzymes inhibitors?
- Define lock & key model of enzymes?

- What are enzymes?
- Give two roles of enzymes?
- What is difference b/w pepsin & pepsinogen?
- How is prosthetic group different from co – enzyme?
- Differ b/w competitive and non – competitive enzymes inhibitors?

## Unit # 4

### Important short questions

- Write salient features of cell theory?
- Differentiate b/w phagocytosis & pinocytosis?
- Give chemical composition of primary and secondary cell wall?
- Give three functions of smooth endoplasmic reticulum?
- Define storage diseases with two examples?
- What is the location of centriole in the cell & what is their role?
- Differentiate b/w chromoplasts & leucoplasts?
- Differentiate b/w cisternae & cristae?
- What are peroxisomes, polysomes and ribosomes?
- What is endocytosis?
- What is differentially permeable membrane?
- Give the important function of cytoplasm?
- What is chromoplast? Give its functions?
- Give the chemical composition of primary & secondary cell wall?
- What are microfilaments? Give its function?
- Define fluid mosaic model of cell membrane?
- Write the two functions of golgi apparatus?
- Define autophagosome?
- What is the resolution of human eye and electron microscope?
- Give the function of endoplasmic reticulum?

## Unit # 5

### Important short questions

- Define species?
- Define virology?
- Give biological classification of corn?
- What is biological nomenclature?
- What are the roles of nomenclature?
- What are prions?
- Differentiate b/w lytic & lysogenic phage?
- Write down symptoms and preventions of hepatitis?
- Write down the four characteristics of viruses?
- Write four names of viral diseases common in human beings?
- Write the symptoms of small pox?
- Sketch and label the diagram of bacteriophage?
- Differentiate b/w procariotique & eucariotique?

## Unit # 6

### Important short questions

- Write four postulates of germ theory?
- What are mesosomes?
- Write functions of mesosomes?
- Write misuse of antibiotics?
- What are trichomes?
- Give the function and structure of heterocysts?
- What are super blue green algae? give its importance?
- Write down the four characteristics of viruses?

- Write four names of viral diseases common in human beings?
- Write the symptoms of small pox?
- Sketch and label the diagram of bacteriophage?
- Define species and viriology?
- Difference b/w tetrad & sarcina?
- Name three general shapes of bacteria and explain only one?
- What are pilli? Give their functions?
- Difference b/w streptococcus & staphylococcus bacteria?
- Difference b/w amphitricus & lophotricus?
- Define peritrichous? [www.ntsacademy.com](http://www.ntsacademy.com)

## Unit # 7

### Important short questions

- What are choanoflagellates?
- What are tritonymphs?
- Give importance of tritonymphs?
- Write two characteristics of ciliates?
- Differentiate b/w micronucleus and macronucleus?
- Difference b/w forminiferas and actinopods?
- What are apicomplexans? Give example?
- How algae differ from plants?
- What are red tides?
- Give structure and function of diatoms?
- Write three characteristics of diatoms?
- What are kelps?
- Name the parts of thallus of a kelp?
- Green algae are considered ancestral organism of green land plants, why?
- What is chlorella?
- Give the significance of chlorella?
- Write importance of algae?
- What are protists? How they are differed from plants and animals?
- What is sleeping sickness?

## Unit # 8

### Important short question

- What are lichens?
- Give the ecological importance of lichens.
- Differentiate b/w karyogamy and plasmogamy?
- Differ b/w rust and smut?
- What are budding and para sexuality?
- What are toad stools? Give examples?
- What is histoplasmosis? Give examples?
- Give the scientific name of the yeast used in genetic research.
- Define hyphae. Give the two types?
- Enlist four plant diseases caused by fungi?
- What is obligate and facultative parasite?
- What is nuclear mitosis? [www.ntsacademy.com](http://www.ntsacademy.com)
- What is Para sexuality, and what is its importance?
- Difference b/w ascus and basidium?
- What are conidia and spores?
- What are sepatate and non sepatate hyphae?
- What is mycorrhiza? [www.ntsacademy.com](http://www.ntsacademy.com)
- Give Importance of mycorrhiza?

- What are dikaryotic hyphae? Give its example?

## Unit # 9

### Important short questions

- Why bryophytes plants are called amphibious plants?
- How spores of mosses differ from spores of liver worts?
- What is alternation of generation? Give its significance?
- Why sphenopsida are called arthropytes?
- Differentiate b/w microphylls and megaphylls?
- Define double fertilization in angiosperms also give its significance?
- Differentiate b/w monocot and dicot?
- Differentiate b/w ovule and seed?
- What are fronds? [www.ntsacademy.com](http://www.ntsacademy.com)
- Differentiate b/w microgametophyte & megagametophyte?
- Define circinate vernation?

## Unit # 10

### Important short questions

- Write the importance of sponges?
- Define polymorphism with example?
- Write down the importance of corals?
- Differentiate b/w infestation and disinfestation?
- Write names and uses of any two useful insects?
- Define nymph and metamorphosis?
- Give three characteristics of chordates?
- Give role of swim bladder in bony fishes?
- Give two commercial importance of sharks?
- Define regeneration and madreporite?
- Write names and harms of any two harmful molluscus?
- Differentiate b/w polyps and medusae?
- Differentiate b/w coelomates and acoelomates?
- What are coral reefs?
- Write two affinities if echinoderm with hemichordates?
- Differentiate b/w diploblastic and triploblastic organisms?
- What are Archaeopteryx give its characteristics?
- What is placenta what is its function?
- Differentiate b/w gastropods and cephalopods?
- Difference b/w sac like and tube like digestive system?

## Unit # 11

### Important short questions

- Define bioenergetics? [www.ntsacademy.com](http://www.ntsacademy.com)
- Differentiate b/w photosynthesis and respiration?
- Define photosynthesis with equation?
- What is compensation point? Where it occurs?
- Write down the molecular formula for chlorophyll "a" and "b"?
- What are necessary pigments in plants? give their importance?
- Differentiate b/w absorption and action spectrum?
- What is photosystem?
- What is Z- scheme? What it is called so?
- What is fermentation? Explain its types?
- Define glycolysis where does it occur?



- Give the importance of ATP?
- Differentiate b/w antenna complex and reaction complex?
- Write the photolysis of water in photosynthesis?
- What is Z – scheme of photosynthesis?
- What is alcoholic fermentation write its equation?

## Unit # 12

### Important short questions

- Differ b/w nutrients and nutrition?
- Write components & function of saliva?
- Name various types of the salivary glands in man?
- Differ b/w peristalsis b/w anti- peristalsis?
- How hunger pangs are caused?
- What is hurt burnt or pyrosis?
- Name types of cells present in gastric glands?
- What prevents the wall of stomach from being digested?
- How secretion is produced in man?
- How secretion effects on pancreas in man?
- What is the role of liver in digestion of food?
- Differentiate b/w chyme & bolus?
- What is chlorosis? What is their causes?
- Define gastrovascular cavity with example?
- Write any two functions of oral cavity?
- Differentiate b/w ingestion & egestion?
- What is filter feeding?
- What is detritus feeding?
- Difference b/w herbivores and carnivores?
- How adipose tissue is formed?
- What is ulcer?
- What is dyspepsia?
- What is villi?
- Give the role of large intestine?
- What is bile? Give its function?
- What are root nudules? Give its examples?
- What are fluid feeders? Give example?
- Discuss parasitic nutrition in plants?

## Unit # 13

### Important short question

- Differentiate b/w organismic and cellular respiration?
- How is air better respiratory medium than water?
- What is photorespiration?
- Name organelles involved in photorespiration?
- Write the name of products of photorespiration?
- What is rubisco? [www.ntsacademy.com](http://www.ntsacademy.com)
- Give the importance of rubisco?
- Define respiratory surface?
- Give properties of respiratory surface?
- Differentiate b/w cutaneous & pulmonary respiration in frog?
- What are counter current exchange and parabronchi?
- Differentiate b/w diaphragm & plurea?

- Name some respiratory disorder and explain one?
- What is emphysema? write its symptoms?
- What is diving reflex?
- What changes occur in animals during diving reflex?
- What are spiracles? Give their functions?
- Write different ways of respiration in frog?
- What is lungs cancer? [www.ntsacademy.com](http://www.ntsacademy.com)
- what is larynx or voice box?

## Unit # 14

### Important short Question

- Differentiate b/w water potential and solute potential?
- Differentiate b/w plasmolysis and deplasmolysis?
- Differentiate b/w apoplast & symplast pathway?
- What are blue babies?
- What is brain hemorrhage?
- Give two preventions of hemorrhage?
- Define gutation? [www.ntsacademy.com](http://www.ntsacademy.com)
- What is pressure flow theory who proposed it?
- What is humoral immune response?
- What is honey dew give its composition?
- What is pressure potential?
- What is imbibition?
- Differentiate b/w single circuit and double circuit heart?
- Differentiate b/w thrombus and embolus?
- What do you know about the bleeding in plants?
- What is cell – mediated response?
- Describe the CO<sub>2</sub> concentration in artery and venous blood?

## NTS ACADEMY Important Long Questions NTS ACADEMY

1. How study of biology helped mankind to improve the production of food?
2. Define cloning discuss its types and importance?
3. Discuss the role of the study of biology in the protection and conservation of the environment?
4. Explain different types of polysaccharides?
5. Describe the importance of water in life?
6. Describe acylglycerol in detail?
7. Describe primary and secondary structure of protein?
8. Compare DNA and RNA explain the types of RNA?
9. Explain Watson and crick model of DNA?
10. Write a note on endoplasmic reticulum?
11. what are plastids? Explain structure and function of chloroplast?
12. Describe the structure and function of mitochondria?
13. Differentiate b/w prokaryotic b/w eukaryotic cells?
14. Describe the life cycle of bacteriophage?
15. How HIV is transmitted? Give a sketch of the infection cycle of HIV?
16. Define hepatitis? Describe its symptoms, causes & types?
17. Describe different classes of bacteria on the basis of flagella?
18. Discuss the process of nutrition in bacteria?
19. Describe different physical & chemical methods to control bacteria?
20. Write down the characteristics of cyanobacteria?
21. Explain the taxonomic status of fungi?

22. Describe different methods of asexual reproduction in fungi?
23. Write four economic gains & losses due to fungi?
24. Give adaptations of fungi on land? [www.ntsacademy.com](http://www.ntsacademy.com)
25. Describe land adaptations of bryophytes?
26. What is alternation of generation? Give its significance?
27. How the evolution of leaf took place?
28. Enlist steps involved in evolution of seed?
29. Describe in detail cyclic & noncyclic phosphorylation?
30. Draw and describe Calvin cycle in photosynthesis?
31. Draw the sketch and explain krebs cycle?
32. what is glycolysis? Describe its various types?
33. Give the digestion in the cockroach?
34. Explain the process of digestion in hydra?
35. Describe digestion in oral cavity of man?
36. Describe absorption of digested food in small intestine?
37. Write a note on (a) anorexia nervosa (b) Bulimia nervosa (c) obesity?
38. Why transpiration is necessary evil? [www.ntsacademy.com](http://www.ntsacademy.com)
39. Explain various functions of human blood?
40. Describe lymphatic system. Explain its functions and components?
41. Define immunity. Give its types?

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## 1<sup>st</sup> year BIOLOGY guess paper

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