10th Biology Guess Paper 2025

These guess papers are prepared according to the new paper pattern 2025 issued by the board and based on SLOs.

Your exam paper will be divided as follows:

- **25% Conceptual**
- **75% Knowledge-Based**
- **25% Analytical + Application-Based**

Most Important Short Questions

Chapter #10

#	Question
1	Differentiate between inspiration and expiration.
2	What is the difference between glottis and epiglottis?
3	What is meant by Inspiration?
4	Write difference between Stomata and lenticels.
5	What is the difference between respiration of day and night?
6	What is the role of 'C' shaped cartilage rings in the wall or trachea?
7	Define alveoli?
8	Differentiate between acute and chronic bronchitis.
9	Differentiate between acute Bronchitis and Chronic Bronchitis.
10	What is the difference between stomata and lenticels?
11	What is lungs cancer?
2	Describe the function of nasal cavity.
13	Differentiate between Bronchi and Bronchioles.
14	What is meant by Osmoregulation?
15	Describe two harmful effects of smoking on human health.
16	Write symptoms of Emphysema.
17	Describe structure and function of alveolus.
18	How smoking affects circulatory system?
19	What are carcinogens?
20	Differentiate between diaphragm and pleural membranes.
21	Except lungs, on which organs of the body does smoking affect?
22	Write down symptoms of bronchitis.
23	What are vocal cords? What is their function?
24	Is it true that trachea remains always open? If yes, then why?

25	Write harmful effects of smoking on teeth.
26	Describe functions of inspiration.
27	Write symptoms of Asthma.
28	Write names of two steps of the mechanism of breathing.
29	What is meant by cellular respiration?
30	How do pleural membranes protect lungs?
31	Write symptoms of Pneumonia.
32	Write down the primary goal of the World Health Organization to prevent lung cancer.
33	Write two bad effects of Smoking.
34	What are the causes of pneumonia?
35	Write down the symptoms of emphysema.
36	What is passive smoking and how is it harmful?

Chapter #11

#	Questions
1	What is dialysis? Name its two methods.
2	Define Xerophytes and give example.
3	Write two adaptations in Xerophytes to prevent loss of water.
4	Define homeostasis and write down its any two processes.
5	Write the name of parts of urinary system of Human.
6	Write two osmotic adaptations in hydrophytes.
7	Distinguish between Osmoregulation and thermoregulation.
8	What is meant by thermoregulation?
9	Write the name of three main steps of urine formation.
10	What are the problems after kidney transplant?
11	Define osmosis.
12	What are two leading causes of kidney failure?
13	What is loop of Henle?
14	Describe two characteristics of hydrophytes.
15	Write components of glomerular filtrate.
16	Briefly explain the process of guttation.
17	Why there is no transpiration at night?
18	Name two major organs which work for homeostasis in human.
19	Write down names of four waste materials excreted from plants.
20	Explain selective reabsorption in nephron.
21	Differentiate between hydrophytes and Xerophytes.
22	What is meant by homeostasis?
23	Write issues (problems) after kidney transplant.
24	Define Lithotripsy.
25	Briefly describe structure and function of sensory neurons.

26	What is meant by Stimulus?
27	Which components of blood cannot be filtered through kidneys and why?

Chapter #12

#	Questions
1	Write difference between motor nerves and mixed nerves.
2	Write the functions of hypothalamus.
3	Write differences between exocrine and endocrine glands.
4	What is meant by Aqueous Humour?
5	Write the function of insulin and glucagon.
6	Distinguish between dendrites and axons.
7	What is reflex action?
8	What are receptors? Give two examples.
9	How does co-ordination occur in unicellular organisms?
10	What is meant by Hippocampus?
11	Write the cause and two symptoms of hyperthyroidism.
12	What is hyperthyroidism?
13	Differentiate between diabetes insipidus and diabetes mellitus.
14	Write the function of Eustachian tube.
15	Differentiate between cranial and spinal nerves.
16	Describe structure and function of sensory neurons.
17	What is the role of rhodopsin in eye?
18	Briefly describe structure and function of motor neurons.
19	What are meninges? Write their function.
20	Name any four components of Coordinated Action.
21	Write its symptoms.
22	How does Goiter disease occur?
23	Which hormones regulate the level of calcium ions in blood?
24	What is hypermetropia? Write down its treatment.
25	Define reflex arc.
26	Write down the difference between receptors and effectors.
27	Write down difference between axons and dendrites.
28	What is the difference between aqueous humour and vitreous humour?
29	Write the roles of rods and cones.
30	Differentiate between sensory and motor neuron.
31	Distinguish between sympathetic and parasympathetic nervous system.
32	Write down the role of somatotrophin in human growth.
33	What are effectors? Give an example.
34	What is mean by myopia?.
35	Define nerve impulse.
36	What are Schwann cells? Where are they found?
37	What is a brain stem?
38	How ear maintains the balance of body?

39	Write reaction of pupil in dim and bright lights.
40	What is the cause of dwarfism?
41	What is the function of medulla oblongata?
42	Write the names of two hormones produced in ovaries.
43	Differentiate between somatic and autonomic nervous system.

Chapter #13

#	Questions
1	Define cartilage.
2	Write the names of chest bone.
3	Write differences between compact bone and spongy bone.
4	Define hinge joint and write two examples.
5	Define osteo-arthritis.
6	Write down functions of human skeleton.
7	Write the functions of parathormone hormone.
8	Define exoskeleton and endoskeleton.
9	What is meant by skeletal system?
10	Write four reasons of osteoporosis.
11	What is meant by multiple fission?
12	Define locomotion.
13	What is Fibrous Cartilage?
14	Differentiate between compact bone and spongy bone.
15	What is the difference between compact and spongy bone?
16	Write two big functions of skeletal system in our body.
17	What is a tendon? Write its function.
18	What is the difference between Origin and Insertion?
19	Differentiate between Osteocytes and Chondrocytes.
20	Define chondrocytes.
21	Differentiate between biceps and triceps muscles.
22	Define biceps and triceps.
23	Write definitions of origin and Insertion.
24	Why is skeletal system necessary for human body?
25	Define cartilage.
26	Differentiate between immoveable (fixed) joints and slightly moveable joints.
27	What is rheumatoid arthritis?
28	What is joint? Write its types.
29	Why density of bones reduces in osteoporosis?
30	What is meant by ligaments?

Chapter #14

#	Questions
1	What is the difference between flexor and extensor?
2	Write structure of Bryophylium.
3	Define double fertilization?
4	Differentiate between external fertilization and internal fertilization.
5	Write the method of budding in yeast.
6	How plants reproduce through suckers?
7	How natural vegetative propagation occurs by corms?
8	Write the names of four organisms reproduced by budding.
9	Define calluses.
10	How sponges and hydra are reproduced by budding?
11	What is vegetative propagation by leaves?
12	Define cross pollination.
13	What is sporophyte and gametophyte generation?
14	Define reproduction and name its two basic types.
15	Differentiate between Sexual and asexual reproduction.
16	What is meant by alternation of generation?
17	Write difference between hilum and micropyle.
18	How budding occurs in hydra?
19	Write name of four parts of Seed.
20	Differentiate between sporophyte and gametophyte generations.
21	How does binary fission take place in bacteria?
22	What is external fertilization? Give an example.
23	What is meant by Parthenogenesis?
24	Differentiate between Bulbs and Corms.
25	Describe the process of parthenogenesis in honey bee.
26	Differentiate between regeneration and binary fission.
27	Define pollination, also give its types:
28	What is meant by Fragmentation?
29	Write advantages of vegetative propagation of plants.
30	Define alternation of generations in plants.

Chapter #15

#	Questions
1	Write down the bonding between nitrogenous bases in DNA model.
2	Define nucleosomes.
3	What is meant by Organic or Biological Evolution?
4	What are traits? Name two traits of human.
5	Define monohybrid and dihybrid cross.

6	Define translation.
7	Write the Genotype of Blood Group B.
8	Define Mendel's law of independent assortment.
9	Write the genotype of blood group "A".
10	Write two main sources of variations.
11	Write characteristics of Watson - crick model of DNA.
12	What is meant by Incomplete Dominance?
13	Define trait and give an example.
14	Differentiate between homozygous genotype and heterozygous genotype.
15	What is meant by co-dominance?
16	What is meant by term "True breeding"?
17	What is meant by Punnett square?
18	What is nucleotide? Write the names of its three components.
19	Write the advantages of artificial selection in animals.
20	Write the names of four inheritable traits in human.
21	What is meant by theory of special creation?
22	Differentiate between Continuous and Discontinuous variations.
23	What is meant by Artificial selection?
24	Write down the function of DNA?
25	State Difference between Breeds and Cultivars.
26	Write down sources of variations.
27	State Mendel's law of independent assortment.
28	Write the colours of flowers of Four-O-Clock Plant.
29	Differentiate between gene and allele.
30	What is a homozygous genotype?
31	What is meant by theory of special creation?
32	Write the Genotype of Blood Group B.
33	Write two stages of organic evolution.
34	Differentiate between breeds and cultivars.
35	How nucleosomes are formed?
36	Write the names of different types of genotype.
37	Write contributions of Charles Darwin for evolution.
38	Define discontinuous variations and write its one example.
39	Differentiate between dominants and recessive alleles.
40	Name any four contrasting traits in pea plant.
41	Differentiate between dominant allele and recessive allele.
42	Define DNA replication.
43	What is phenotype? Give an example.
44	Differentiate between breeds and varieties.
45	What is theory of special creation?
46	What is meant by codominance?
47	Write down definition of continuous variations and give two examples.
48	Differentiate between breeders and cultivars.
49	State Law of segregation.
50	What is meant by alleles?

51	What is monohybrid cross?
52	What is meant by transcription?
53	Differentiate between genotype and phenotype.
54	Differentiate between dominant and recessive alleles.
55	Define co-dominance.
56	What are the sources of variations?

Chapter #16

#	Questions
1	Differentiate between food chain and food web.
2	How does energy flow in an ecosystem?
3	Define species.
4	What is meant by the environment of an organism?
5	What is meant by 3R' principle?
6	What are effects of global warming?
7	If producers are eliminated from Ecosystem, what will happen?
8	What is meant by biological nitrogen fixation?
9	Define Population and Community.
10	Define industrial nitrogen fixation.
11	What is meant by environment friendly fuels?
12	Differentiate between ectoparasites and endoparasites and give their examples.
13	How we can minimize effects of air pollution by using environment friendly fuels?
14	What is meant by producers?
15	Differentiate between abiotic and biotic components.
16	Write down names of two basic components of ecosystem.
17	Define biosphere and write its thickness.
18	Write two causes of land pollution.
19	Define mutualism. Give one example.
20	Differentiate between Renewable and Non-Renewable Resources.
21	Differentiate between primary and secondary consumers.
22	Define community and ecosystem.
23	What is difference between atmospheric- and biological nitrogen fixation?
24	How smog is formed? Write down its two effects.
25	What are ecological pyramids? How many types of these are?
26	Write down two effects of acid rain?
27	Define species.
28	What is meant by omnivores?
29	What do you mean by afforestation?
30	Write the role of decomposers in an ecosystem.
31	Write down examples of carnivore’s plants.
32	What is greenhouse effect?
33	Differentiate between population and community.

34	Define Commensalism.
35	Define biological nitrogen fixation.
36	Write the names of Biotic and Abiotic Components of Ecosystem.
37	Write down any two examples of endoparasites.
38	How smog is formed? What are its effects?
39	Write any two major sources of carbon in the living world.
40	Define thermodynamics.
41	Differentiate between intra-specific and inter-specific interaction?
42	What is meant by predation?
43	What is meant by Acid Rain?
44	What is difference between intraspecific and interspecific competition?
45	What are effects of ozone depletion?
46	Define assimilation.
47	Define commensalism and give one example.
48	Differentiate between ectoparasites and endoparasites.
49	Define consumers and write it's any two types.
50	What is food web?
51	Define deforestation?
52	Define parasitism.
53	Write two effects of Deforestation.
54	Define Ecology.
55	Differentiate between nitrosomonas and nitrobacter bacteria.
56	What is eutrophication? Give its one reason.
57	Describe interrelationship between sucker fish and shark.

Chapter #17

#	**Questions**
1	Write down uses of glycerol.
2	Define recombinant DNA.
3	What is Human Genome Project?
4	Define biotechnology.
5	Write two advantages of fermented food.
6	What is fermenter?
7	Write symptoms of dengue fever.
8	Write the procedure of continuous fermentation.
9	Define Single-Cell Protein.
10	Write the names of two major techniques used in biotechnology.
11	What do you know about alcoholic products?
12	What are interferons?
13	Write down names of any four products formed by fermentation.
14	What are transgenic organisms?
15	Who was Professor Scrimshaw?

16	Define GMO.
17	What are restriction endonucleases?
18	Write the name of two enzymes used in genetic engineering.
19	How pickles, fruits and vegetables are preserved by fermentation?
20	Define fermentation.
21	How the single cell proteins produced by yeast are better?
22	Write two important achievements of genetic engineering.
23	Write the names of bacteria used in lactic acid fermentation.
24	Define genetic engineering.
25	Write a short note on lactic acid fermentation.
26	Write application of fermentation in dairy products.
27	What are advantages of using fermenters?
28	Write two uses of Aspergillus.
29	What is meant by lactic acid fermentation?
30	What is the difference between transgenic and genetically modified organisms?

Chapter #18

#	Question
1	What are addictive drugs? Write their harm.
2	What is tincture of iodine?
3	Why tetracyclins are not used in children under the age of 8?
4	What is meant by Heroin? Write its bad effects.
5	Differentiate between bactericidal and bacteriostatic antibiotics.
6	What is the difference between antiseptics and disinfectants?
7	Write two uses of narcotics.
8	What is pharmaceutical medicine?
9	What are Cephalosporins? Write their one use.
10	What is the difference between pharmacology and pharmacy?
11	Define synthetic drugs and write its one example.
12	What is the use of vaccines? Write example.
13	Define vaccine.
14	How Bacteria gain resistance against Antibiotics?
15	Distinguish between antiseptics and antibiotics.
16	Why non-prescription drugs are sold over the counter?
17	What do you know about lactic acid fermentation?
18	What are cephalosporins?
19	Write down the use of analgesics.
20	Differentiate between Pharmaceutical and Addictive Drugs.
21	What is meant by social sigma?
22	In which infections tetracyclins are used?
23	Differentiate between drug and pharmaceutical drug.
24	What is the difference between analgesics and sedatives?

25	What is meant by vaccines? For which purpose do vaccines use?
26	What are tetracyclines?
27	Write sources of mescaline and psilocin.
28	What is difference between analgesics and antibiotics?
29	What is difference between antigens and antibodies?

Most Important Long Questions

Chapter #11

#	Question
1	Explain the role of lungs, skin, and kidneys in homeostasis.
2	Describe the structure of the kidney.
3	Explain that skin plays an important role in the regulation of body temperature.
4	Write a note on homeostasis in humans.
5	Describe osmoregulatory function of kidney.
6	Describe any two steps of the function of kidney.
7	Explain osmoregulation and thermoregulation.
8	Along with excretion, kidneys also play a role in osmoregulation—comment on this statement.
9	Explain the Peritoneal dialysis.
10	Describe osmotic adaptations in hydrophytes and halophytes.
11	Write details of kidney transplant.
12	How do plants get rid of extra water and carbon dioxide? Explain.
13	Write osmotic adjustments in hydrophytes and halophytes.
14	What is the functional unit of kidney? Describe its structure with labelled diagram.
15	Explain the functioning of kidney.
16	Write down the causes and treatment of kidney stone.
17	Write notes on Xerophytes and Halophytes.
18	What are the characteristics which enable the Xerophytes to live in dry environment?

Chapter #12

No.	Question
1	Write a note on Paralysis and Epilepsy.
2	Explain Reflex Arc with labelled diagram.
3	Write a note on Autonomic Nervous System.

4	Describe two disorders of the eye and their cure.
5	Write a note on spinal cord.
6	Write a note on homeostasis in humans.
7	Explain peripheral nervous system in humans.
8	What is feedback mechanism? Explain its two types.
9	Describe the structure of Hind Brain.
10	Write a note on forebrain.
11	Explain the pituitary gland with its hormones and their functions.
12	Write down the names and function of four lobes of the cerebrum.
13	Describe the role of receptors and effectors in a coordinated action.
14	Where is Thyroid gland present? Write the importance of hormones secreted by it.
15	Explain the structure of a neuron.
16	Write a detailed note on reflex action.
17	Describe peripheral nervous system and write its types with their functions.
18	Explain pituitary gland in detail.

Chapter #13

#	Question
1	Write a note on the role of biceps and triceps muscle.
2	What is cartilage? Write about its three types.
3	What is meant by antagonism? Explain antagonistic action with the help of an example.
4	What is a bone? Describe its structure and types.
5	Define a joint and explain its types.
6	Explain osteoporosis.
7	What is arthritis? Explain its different types.
8	Write a note on the antagonistic behavior of skeletal muscles.
9	What is skeleton? Explain different parts of the human skeleton.
10	Explain antagonism in muscle action with biceps and triceps as an example.
11	Describe three types of arthritis.
12	What is antagonism? Describe it with the example of flexor and extensor muscle.
13	Describe the types of joints and also give examples.
14	Write a note on the axial skeleton and appendicular skeleton.
15	Define Cartilage and explain any two types of it.

Chapter #14

#	Question
1	Explain the phenomenon of multiple fission in Amoeba with the help of a diagram.
2	Write a note on the following: (i) Grafting (ii) Cutting.
3	Describe the process of oogenesis with the help of a labelled diagram.

4	Explain the process of budding in yeast with the help of a diagram.
5	Define antibiotics and discuss their various types.
6	Describe the structure of a seed with the help of a labelled diagram.
7	Explain female reproductive system of a rabbit with the help of a diagram.
8	Differentiate between Epigeal and Hypogeal Germination with a labelled diagram.
9	Explain the process of Binary Fission in Bacteria with the help of a diagram.
10	Write the structure of a flower. Also, draw a labelled diagram.
11	Explain spermatogenesis with the help of a diagram.
12	Describe the male reproductive system of a rabbit in detail and make its diagram.
13	With the help of a labelled diagram, explain the process of spermatogenesis.
14	Draw and label the structure of a dicot seed and explain its different parts in detail.
15	Define binary fission and explain the process of binary fission in bacteria with the help of a diagram.

Chapter #17

No.	Question
1	Describe two types of carbohydrate fermentation.
2	What are single-cell proteins? Describe their importance.
3	Write objectives of genetic engineering.
4	Differentiate between alcoholic and lactic acid fermentation.
5	What is meant by biotechnology? Describe the application of biotechnology in the field of medicine.
6	Write four basic steps in genetic engineering.
7	Write down four achievements of genetic engineering.
8	Write details of types of fermentation.
9	What is Fermenter? Describe two types of fermentations carried out in Fermenters.
10	Discuss the role of biotechnology in the field of food and agriculture.
11	What is the scope of biotechnology in the field of medicine, food, and agriculture?
12	Describe the types of fermentation of carbohydrates.

Chapter #18

No.	Question
1	Describe Mode of Action of Vaccine.
2	Write a note on drug addiction and associated problems.
3	Write mode of action of vaccine.
4	Describe the sources of Drugs in detail?
5	What are addictive drugs? Write down their source and effects of hallucinogens and marijuana.

6	Describe various resources of medicinal drugs.
7	Write note on sedatives and hallucinogens.
8	Write a note on vaccines and their mode of action.
9	Write the name of sources of drugs and explain any three.
10	Define vaccine and describe the mode of action of vaccine in detail.
11	What is meant by hallucinogens and marijuana? Write their bad effects.
12	Describe narcotics in detail.