U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

FIRST YEAR

GENERAL BOTANY

Time: 3 Hours **Maximum Marks: 75**

SECTION - A (5x5 = 25 Marks)

Answer any FIVE questions.

1. What are epizoic algae?
2. Describe the floral characteristics of the family Fabaceae.
3. What is double fertilization?
4. What are the deficiency symptoms of the macronutrients, nitrogen and phosphorus in plants?
5. What are the major causes of soil pollution?
6. Explain test cross with an example and purpose of its application.
7. What are the basic components of ecosystem?
8. What is the economic importance of the family, Annonaceae?

SECTION - B (5 x 10 = 50 Marks)

Answer any FIVE questions.

9. Write a short account on Economic importance of algae.
10. Give the outline of the classification of Angiosperms by Bentham and Hooker.
11. Draw the structure of a mature ovule and give its types.
12. How does water absorption take place in plants?
13. What are the sources of air pollution? Discuss the control measures.
14. Describe a dihybrid cross and give the phenotypic ratio of F2 generation.
15. How do plants respire?
16. What are the general characteristics of the family Annonaceae?

U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

FIRSTYEAR

GENERAL BOTANY

Time: 3 Hours **Maximum Marks: 70**

PART - A **(5x2 = 10 Marks)**

Answer all Five questions

1. What is Binomial?
2. What is Stamen
3. Describe Micronutriants
4. Ecosystem explain
5. What is allele?

PART - B **(4 x 5 = 20 Marks)**

Answer any FOUR questions

6. Write about rules of Binomial nomenclature
7. Types of Botanical nomenclature- write notes
8. Write bout structure of Anther
9. Write about formation of Megaspore
10. Describe the Factors Affecting Absorption of Water
11. Explain Food Web
12. Explain Law of Independent Assortment.

PART - C **(4 x 10 = 40 Marks)**

Answer any FOUR questions

13. Write Bentham and Hooker Classification
14. Give description about i. Fabaceae, ii. Liliaceae
15. Write about structure and Types of Ovules
16. Give details of Light Reaction
17. Describe: i. Glycolysis, ii Photorespiration
18. Write notes on Productivity
19. Give notes on Linkage and Crossing Over.

UG-P84 **BZOO2-1P**

U.G. PRACTICAL EXAMINATION – JUNE - 2021

ZOOLOGY

SECOND YEAR

INVERTEBRATE ZOOLOGY

Practical: (External only)

Time: 2 hours Max.marks:75

1. Write the Squash preparation of Grasshopper testis and study of Meiosis (30 Marks)
2. To perform the dissection & identify the mouth parts of cockroach (15Marks)
3. Spotters (6x5=30Marks)

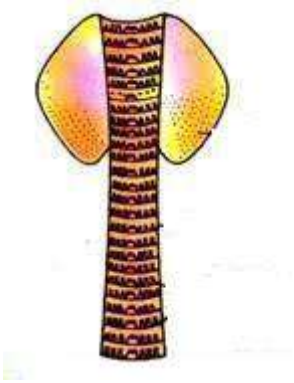
Identify and Comment on the followings

a)

b)

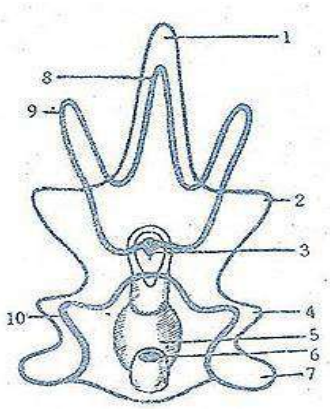
c)

d)



e)

f)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U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

SECOND YEAR

VERTEBRATE ZOOLOGY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Summarize the general characters of Prochordata.
2. Write the general characters of Amphibia and classify it upto orders.
3. Describe the digestive system *Calotes*.
4. What are the flight adaptations seen in birds?
5. Draw and describe the brain of Rabbit.
6. Write briefly on parental care in fishes.
7. Comment on the adaptive features seen in Urodela and Apoda.
8. List the characters of Archaeopteryx and discuss its evolutionary significance.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Discuss the origin of Chordata.
10. Draw and describe the male and female reproductive systems of frog.
11. Summarize the general characters of Reptilia and classify it upto orders.
12. Explain the respiratory system of Pigeon.
13. Describe dentition in mammals.
14. With a neat diagram describe the arterial system in Shark.
15. Give a detailed account on the poison apparatus and biting mechanism of poisonous snakes.
16. List the general characters of Mammalia and classify upto orders.

BZOO2-2P

U.G. DEGREE EXAMINATIONS- JUNE 2021

ZOOLOGY

SECOND YEAR

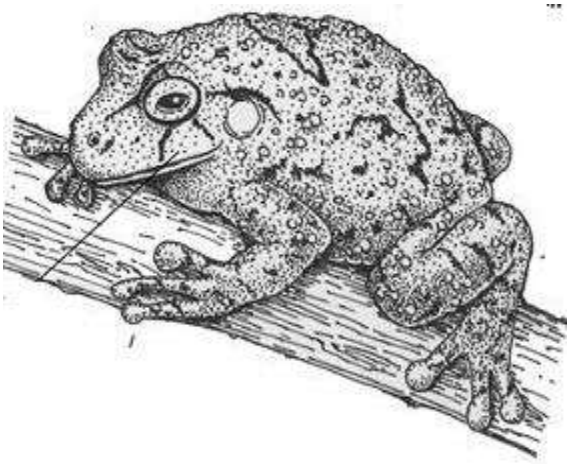
Practical –II (`Vertebrate Zoology)

Time: 2 Hours Max.marks:75

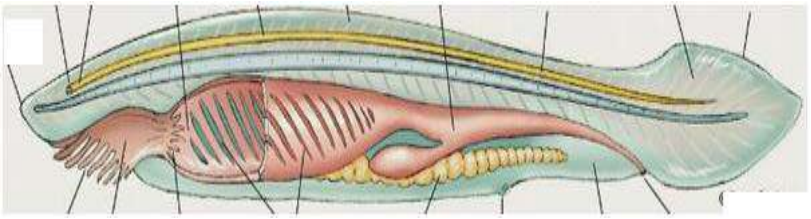
1. Draw the anatomical observation of the Digestive system of frog and explain the biological events of digestion (30 Marks)
2. To draw and label ctenoid scale (15 Marks)
3. Spotters (6X5=30 Marks)

Identify and Comment on the followings

a)



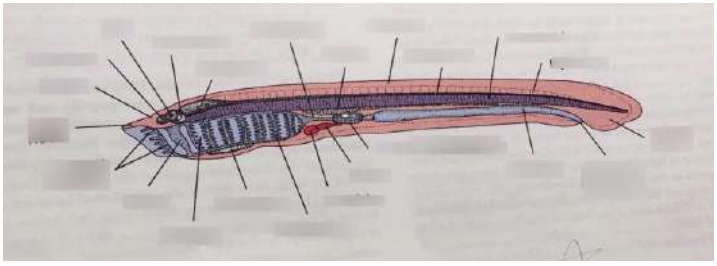
b)



c)

d)

e) Comment on the Evolutionay signinificance



f) Comment on the dentition

U.G. DEGREE EXAMINATION - JUNE 2021
ZOOLOGY
THIRD YEAR
CELL BIOLOGY

Time : 3 Hours **Maximum Marks : 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Draw a neat sketch of Animal with label.
2. Describe the process of electron transport through the multiprotein complex.
3. Discuss the morphological and molecular structure of Endoplasmic Reticulum.
4. What is the basic difference between Prokaryotic and Eukaryotic genome?
5. Give short notes on regulation of Cell Cycle.
6. Write a note on structure and function of Lysosome.
7. What are the functional differenced between free and bound Ribosome.
8. Enumerate the types of Cancer.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Write an account on the general features of Bacteria.
10. Describe the process of ATP synthesis in Mitochondria.
11. Explain the function of Golgi Complex.
12. Give an elaborate account on Nucleosome.
13. Write brief account on various stages of Cell Biology.
14. Give a detail account on the structure and function of Plasma Membrane.
15. Briefly explain the Giant Chromosomes.
16. Discuss the various steps of the generation of Epithelial Cancer.

UG-P184 **BZOO3-3P**

U.G. PRACTICAL EXAMINATION – JUNE - 2021

ZOOLOGY

SECOND YEAR

CELL BIOLOGY, GENETICS, EVOLUTION AND DEVELOPMENT
BIOLOGY & BIOTECHNOLOGY

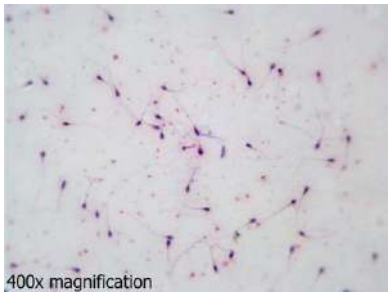
Time: 2 Hours **Maximum Marks: 75**

1. Demonstrate the procedure of mitosis cell division by preparing a mount of onion root tip in given sample. (30 Marks)
2. To perform the mounting of buccal epithelium (15 Marks)
3. Spotters (5X6=30 Marks)

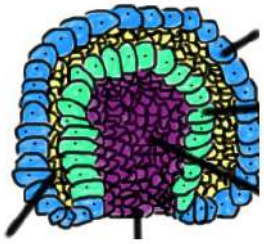
<u>Identify and Comment on</u>

a)

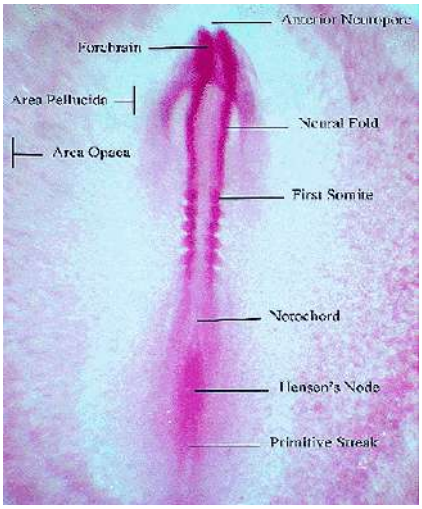
b)



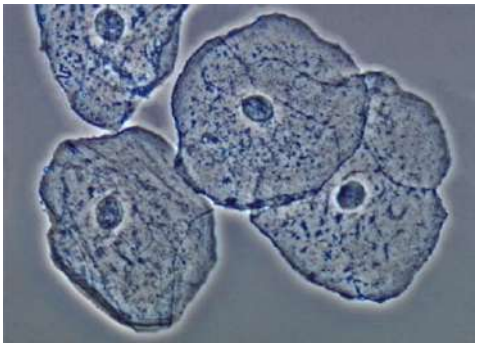
c)



d)


Anterior Neuropore
Forebrain
Area Pellucida
Neural Fold
Area Opaca
First Somite
Notochord
Hensen's Node
Primitive Streak

e)



U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

THIRD YEAR

GENETICS AND EVOLUTION

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Write a short notes on sex linked traits.
2. Brief explain the chromosomal basis of sex determination in humans.
3. Give an account on Chromosomal Aberrations.
4. Comment on Hardy-Weinberg law with the affecting factors.
5. Write an essay on Morgan's experiments.
6. Explain the inhibitory and lethal factors.
7. Describe the different types of the variation.
8. List out the various Isolating mechanisms with suitable examples.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Give an account on sex Determination in Man.
10. What is linkage? Example Chromosome theory of linkage.
11. Discuss the types and the modes of action of any four types of chemical mutagens.
12. Write an essay on different types of Mutations.
13. Describe Gene Frequency and what are the factors affecting it.
14. Write an account an Animal breeding and its types.
15. What are the factors influencing Speciation? Explain.
16. Briefly explain the Zoogeographical realms.

UG-P184	BZOO3-4P

UG PRACTICAL EXAMINATION – JUNE – 2021

Zoology

Third Year

Practical-IV

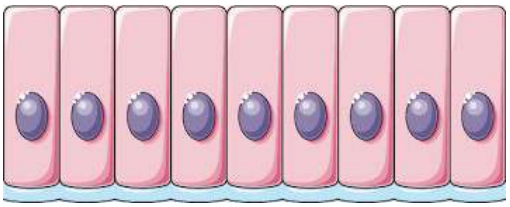
Time: 2 Hours Maximum Marks:75

1. Write the Principle and procedure of blood smear preparation – Differential count of WBC? (30 Marks)
2. To perform the estimation of salinity in water samples (15 Marks)
3. Spotters (30 Marks)

Comment on and Identify the followings

a)

b)



c)

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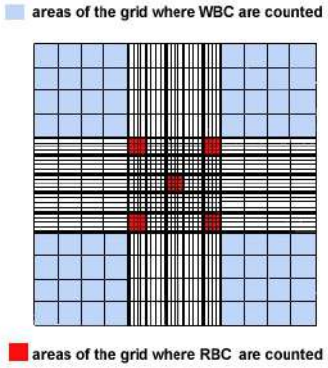
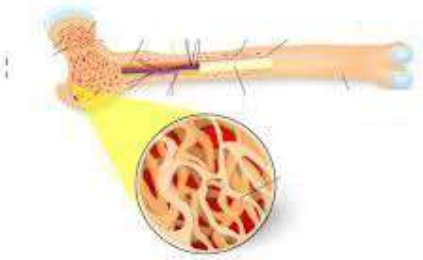

areas of the grid where WBC are counted
areas of the grid where RBC are counted

e)



U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

THIRD YEAR

DEVELOPMENTAL BIOLOGY AND IMMUNOLOGY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Drew and explain the structure of a human sperm.
2. Explain cleavage and what are factors influencing the cleavage.
3. Present the morphological features of Placentation Mammals.
4. Describe briefly acquired passive immunity.
5. Write short notes on the Immunoglobulin A.
6. Write about the functions of fertilizing-Antifertilizin reaction.
7. Mention the cleavage pattern in Amphioxus.
8. Give a brief account on Reproductive technology.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Give an account on the process of Oogenesis with a diagram.
10. Eloborate on the development of brain and eye in frog.
11. Illustrate the structure of Embryonic membranes and their function in Chick.
12. Write an account on Anaphylatic hypersensitivity.
13. Present the Immunization schedule for Children.
14. Describe the Artificial Parthenogenesis and its significance.
15. Give a detailed account on Regeneration in Invertebrate.
16. Write an essay on ‘Test tube babies and Bioethics’.

U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

THIRD YEAR

ANIMAL PHYSIOLOGY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Write down the role of minerals in animals.
2. Enlist the mechanism of cardiac cycle in man.
3. Write a note on various types of muscles.
4. Analyse the mechanism of urine formation in man.
5. Describe the structure of nerve cell with a neat diagram.
6. With neat labeled sketch explain the structure of synapse.
7. 'Testis is an example for mixed gland' - Justify.
8. Describe the structure and endocrine functions of Thyroid gland.

PART - **B** **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Explain the role of enzymes in the digestion of carbohydrates.
10. Write an essay on water soluble vitamins and their function.
11. Describe in detail the mechanism of transport of carbondioxide in man.
12. Discuss about the properties and functions of blood.
13. Explain in detail about the ultra structure of muscles.
14. Write in detail about the structure and functions of Adrenal gland.
15. Describe the defects in vision of man.
16. Give an account on structure and functions of parathyroid gland.

U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

THIRD YEAR

ENVIRONMENTAL BIOLOGY AND BIOTECHNOLOGY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions.

1. Write a short notes Phosphate cycle.
2. Describe the process Population fluctuation.
3. What is the Deforestation? Explain its impact in environment.
4. Discuss the basic techniques in rDNA technology.
5. Write a note on structure and function of Lysosome.
6. Write a note on Environmental Ethics.
7. Explain the application of Animal Cell culture.
8. Highlight the role of Sanctuaries in Environmental Conservation.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. Write an account on the carbon cycle in environment.
10. Describe the characteristics of Population Ecology.
11. Explain the population explosion and other environmental hazards.
12. Give an elaborate account on Genetic Engineering.
13. Write brief account on transgenic animals.
14. Give a detail account on the animal association with Temperature.
15. Briefly explain the Human Genome project.
16. Discuss in detail role of Governmental agencies for environmental monitoring.

P.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

FIRST YEAR

INVERTEBRATE ZOOLOGY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5 x 5 = 25 Marks)**

Answer any FIVE questions

1. Write a note on Binomial nomenclature.
2. Explain how coral reefs are formed.
3. What are the adaptations seen in helminthes for parasitic mode of life?
4. Discuss the affinities of Peripatus.
5. Describe the respiratory system of Freshwater Mussel.
6. Discuss the evolutionary significance of Trochopore larva.
7. Summarize the general characters of Phylum Arthropoda.
8. With a neat diagram describe the water vascular system of Starfish.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions

9. Describe the life cycle of *Plasmodium*.
10. Elaborate on polymorphism in Coelenterates.
11. Write an account on the reproductive system of *Taenia solium*.
12. Describe the nervous system of earthworm with a neat diagram.
13. Write the general characters of phylum Mollusca and classify it upto classes with examples.
14. Explain canal system in sponges.
15. Give an account on *i) Enterobius vermicularis and ii) Ancylostoma duodenale.*
16. Writes notes on Echinoderm larvae and discuss their significance.

P.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

SECOND YEAR

GENERAL CHEMISTRY

Time: 3 Hours **Maximum Marks: 75**

PART - A **(5x5 = 25 Marks)**

Answer any FIVE questions.

1. Write notes on indicators.
2. With suitable examples explain molarity and normality.
3. Explain fractional crystallization.
4. Explain catalyst and its properties.
5. What are the types and properties of polymers?
6. Define antibiotics. List out the uses of penicillin and streptomycin.
7. Give brief account on common safety methods in a laboratory.
8. Bring out the causes and effects of water pollution.

PART - B **(5 x 10 = 50 Marks)**

Answer any FIVE questions.

9. What are the types of chemical bonds? Describe any three types of bonds with examples.
10. With suitable examples explain the following organic reaction
    (i) Addition (ii) Substitution (iii) Polymerization
11. Define chromatography. Write the principles and applications of thin layer chromatography.
12. Explain the Michaelismenton equation.
13. Write preparation and applications of the following:
    (i) Polythene (ii) Teflon

14. Classify carbohydrates with suitable examples. Write the properties of disaccharides.
15. Define water soluble vitamins. Discuss sources and deficiency states of any three of them.
16. Define pollution. Bring out the reasons and effects of air pollution.

U.G. DEGREE EXAMINATION - JUNE 2021

ZOOLOGY

FIRST YEAR

INVERTEBRATE ZOOLOGY

Time: 3 Hours **Maximum Marks: 70**

PART - A **(5x2 = 10 Marks)**

Answer all the FIVE questions.

1. Metazoa
2. Metagenesis
3. Ancylostomiasis
4. Green glands
5. Pedicellariae

PART - B **(4 x 5 =20 Marks)**

Answer any FOUR questions.

6. Describe the significance of classification.
7. Write short notes in polymorphism in hydrozoa.
8. Comment on the parasitic adaptions of helminthes.
9. List the Annelidan characteristics found in Peripattus.
10. Enlist the general characteristics of phylum Mollusca.
11. Comment on the significance of Echinoderm larval forms.
12. Describe the sexual cycle of plasmodium.

PART - C **(4 x 10 = 40 Marks)**

Answer any FOUR questions.

13. Describe the structure and lifecycle of Trypanosoma.
14. Explain the canal system of Sycon sponge.
15. Give an account on the life history and pathogenic effect of Wuchereria.
16. Describe the digestive system of earthworm.
17. Explain the respiratory system of freshwater mussel.
18. Give a detail account on coral reefs.
19. Classify phylum Arthropoda up to classes and give a suitable example.