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PGIS-254 A-21
M.Sc. I Semester Degree Examination
ZOOLOGY
Biosystematics And Structure & Functions of Invertebrates
Paper : H.C.T 1.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *All questions carry equal marks.*
- 2) *Illustrate your answers wherever necessary.*

Answer the following in brief.

(8×2=16)

1.
 - a) Microphagy.
 - b) Fluid feeders.
 - c) Endocytosis.
 - d) Parapodia.
 - e) Ancylostoma spp.
 - f) Neurogenesis.
 - g) Nerve net.
 - h) Deutero stomes.

2.
 - a) Explain patterns of feeding and digestion in metazoa. (16)

(OR)

 - b) Describe a detailed account on nervous system of arthropods.

3.
 - a) Describe general organization and affiliation of Mesozoa. (16)

(OR)

 - b) Explain in detail on evolutionary significance of larval forms.

4. Write an explanatory Notes on any **TWO** of the following. (2×8=16)
- a) Mechanism of Speciation.
 - b) Digestive system of mollusca.
 - c) Crustacean parasites.

5. Write short Notes on any **FOUR** of the following. (4×4=16)
- i) Allopatric species.
 - ii) Multi genes families.
 - iii) Trachea.
 - iv) Respiratory pigments.
 - v) Taxonomic keys.
 - vi) Malphigian tubules.
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PGIS-255 A-21
M.Sc. I Semester Degree Examination
ZOOLOGY
Molecular Cell Biology
Paper : H.C.T 1.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *All questions carry equal marks.*
- 2) *Illustrate your answers wherever necessary.*

Answer the following in brief.

(8×2=16)

1.
 - a) Centromere.
 - b) Frederick Griffith.
 - c) Flagella.
 - d) Endoplasmic reticulum.
 - e) Transcription factors.
 - f) Nucleosome.
 - g) Microfilaments.
 - h) DNA Ligase.

2.
 - a) Explain in detail on scope of modern cell biology. **(16)**

(OR)

 - b) Describe biochemistry of cell and explain its properties.

3.
 - a) Give a detailed account molecular organization and functions of Lysosomes. **(16)**

(OR)

 - b) Explain on molecular biology of cancer cell.

4. Write an explanatory notes on any **TWO** of the following. (2×8=16)

- a) Synthetic biology.
- b) Mitochondria.
- c) Biology of aging.

5. Write short notes on any **FOUR** of the following. (4×4=16)

- i) Double helix.
 - ii) Nucleolar organizer.
 - iii) Genetic code.
 - iv) Apoptosis.
 - v) Carcinogenesis.
 - vi) Cell cycle.
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PGIS-256 A-21
M.Sc. I Semester Degree Examination
ZOOLOGY
Genetics & Evolution
Paper : H.C.T 1.3

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *All questions carry equal marks.*
- 2) *Illustrate your answer wherever necessary.*

Answer the following in brief.

(8×2=16)

1.
 - a) Eugenics.
 - b) Point mutation.
 - c) Gene pool.
 - d) Mutagens.
 - e) Linkage maps.
 - f) DNA repair.
 - g) Micro evolution.
 - h) Meiotic drive.

2. a) Write a note on chromosomal aberrations and discuss structural and numerical changes. **(16)**

(OR)

 - b) Explain genetic structure of population and add a note on Fisher's theorem.

3. a) Describe molecular phylogeny and add a note on immunological techniques. **(16)**

(OR)

 - b) Explain in detail on modes speciation.

4. Write an explanatory notes on any **TWO** of the following. (2×8=16)

- a) Hardy Weinberg Law.
- b) Crossing over.
- c) Neo Lamarckism.

5. Write short notes on any **FOUR** of the following. (4×4=16)

- i) Coupling.
 - ii) Canalization.
 - iii) Genetic drift.
 - iv) Fisher's theorem.
 - v) Darwinism.
 - vi) Isolation mechanism.
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PGIS-257 A-21
M.Sc. I Semester Degree Examination
ZOOLOGY
Biostatistics and Computer Applications
Paper : S.C.T 1.1(i)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *All questions carry equal marks.*
- 2) *Illustrate your answers wherever necessary.*

Answer the following in brief.

(8×2=16)

1.
 - a) Data reduction.
 - b) Poisson.
 - c) Variance.
 - d) ANOVA(Two way).
 - e) PASTA.
 - f) Standard error.
 - g) Dial up connection.
 - h) Data base.

2.
 - a) Give an account on computer applications in biology. (16)

(OR)

 - b) Describe an overview on MS -OFFICE and add a note on word processing.

3.
 - a) Explain in detail on internet and its applications. (16)

(OR)

 - b) Give a detailed account on Computer hardware and software.

4. Write an explanatory notes on any **TWO** of the following. (2×8=16)

- a) Probability application.
- b) Test of significance.
- c) Computer memory.

5. Write short notes on any **FOUR** of the following. (4×4=16)

- i) BLAST.
 - ii) Binomial.
 - iii) Search Engine.
 - iv) DISC.
 - v) Pendrive.
 - vi) Excel.
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PGIS-258 A-21
M.Sc. I Semester Degree Examination
ZOOLOGY
Aquatic Biology
Paper : S.C.T 1.1(ii)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *All questions carry equal marks.*
- 2) *Illustrate your answers wherever necessary.*

Answer the following in brief.

(8×2=16)

1. a) Benthic zone.
b) Euphotic zone.
c) Salinity.
d) Mesoplankton.
e) Suprabranchial chamber.
f) Fin.
g) Growth curve.
h) Bio mass.
2. a) Describe classification of freshwater habitat with reference to lotic ecosystem. **(16)**

(OR)

b) Give a detailed account on conservation of wetlands and its importance.
3. a) Give a detailed account on marine fishes of India. **(16)**

(OR)

b) Explain in detail on conservation of Wetlands and its importance.

4. Write an explanatory notes on any **TWO** of the following. (2×8=16)

- a) Shellfish culture.
- b) Induced breeding.
- c) Freshwater fishes of India.

5. Write short notes on any **FOUR** of the following. (4×4=16)

- i) Morphometry of lake.
 - ii) Tail beat.
 - iii) Hybridization.
 - iv) Minor carps.
 - v) Cryopreservation.
 - vi) Fishing crafts.
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