

**PGIS-N 1035 B-18**  
**M.Sc. I Semester Degree Examination**  
**ZOOLOGY**  
**(Bio Systematics Structure and Function of Invertebrates)**  
**Paper - HC 1.1**  
**(New)**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

1) Answer all the five questions.

2) Illustrate your answer wherever necessary

1. Answer the following. (8×2=16)
- a) Pseudo celomate
  - b) Bipinnaria Larva.
  - c) Nephridia
  - d) Speciation
  - e) Phenetics
  - f) Sympatric Species
  - g) Respiratory Pigments
  - h) Apomictic Species
2. a) Explain the modifications in the digestion system in Arthropoda and Mollusca. (16)
- (OR)
- b) Explain the Mechanism of nervous system in Echinodermata.
3. a) Describe general organization and affinities of Sipunculida. (16)
- (OR)
- b) Explain evolutionary significance of larval forms.
4. Write an explanatory notes on any **TWO** of the following. (2×8=16)
- a) Filter feeding in Polychaeta.
  - b) Phylogenetic classification.
  - c) Mechanism of Excretion.
5. Write short notes on any **FOUR** of the following: (4×4=16)
- i) Trochophore Larva.
  - ii) Malpighian tubules.
  - iii) Dipleurula larva.
  - iv) Respiratory pigments.
  - v) Taxonomic Keys.
  - vi) Multigene families.

**PGIS-N 1038 B-18**  
**M.Sc. I Semester Degree Examination**  
**ZOOLOGY**  
**(Bio Statistics and Computer Applications)**  
**Paper - S.C.T. 1.1**  
**(New)**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

- 1) *Answer all questions.*
- 2) *Illustrate your answer wherever necessary*

1. Answer the following. **(8×2=16)**
  - a) Conditional Probability
  - b) Frequency distribution
  - c) ANOVA
  - d) PASTA
  - e) Genomics
  - f) Proteomics
  - g) Input devices
  - h) Data base
  
2. a) Explain an over view of Ms Office Software. **(16)**

**(OR)**

  - b) Describe simple linear regression and correlation.
  
3. a) Comment on phylogenetic analysis with examples. **(16)**

**(OR)**

  - b) What is internet? Explain its applications.

4. Write an explanatory notes on any **TWO** of the following.

(2×8=16)

- a) Probability application
- b) Computer Memory
- c) Sequence analysis

5. Write short notes on any **FOUR** of the following:

(4×4=16)

- i) Spread sheet calculation
- ii) CLUSTLAW
- iii) Operating System
- iv) Graphical representation
- v) Homology sequence
- vi) Input devices

Roll No. \_\_\_\_\_

[Total No. of Pages : 2

**PGIS-N 1036 B-18**  
**M.Sc. I Semester Degree Examination**  
**ZOOLOGY**  
**(Molecular Cell Biology)**  
**Paper - H.C.T. 1.2**  
**(New)**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

- 1) *Answer all questions.*
- 2) *Illustrate your answer wherever necessary*

1. Answer the following. (8×2=16)
  - a) Cyclines
  - b) SiRNA
  - c) Telomere
  - d) Micro tubules
  - e) Endocytosis
  - f) Introns
  - g) Peroxisomes
  - h) Chromatid
  
2. a) Describe in brief structure and functions of Nucleic acids. (16)

**(OR)**

  - b) Explain molecular organization and functions of endoplasmic reticulum.
  
3. a) Describe genome organization with a note on hierarchy in organization. (16)

**(OR)**

  - b) Describe molecular events during cell cycle.

**PGIS-N 1036 B-18/2018**

**(1)**

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4. Write an explanatory notes on any **TWO** of the following.

(2×8=16)

- a) Genetic code
- b) Hetero chromatin
- c) Mutations

5. Write short notes on any **FOUR** of the following:

(4×4=16)

- i) Micro filaments.
  - ii) Telomerase.
  - iii) Double strand RNA.
  - iv) Glycoproteins.
  - v) Centromere.
  - vi) Structure of gene.
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Roll No. \_\_\_\_\_

[Total No. of Pages : 2

**PGIS-N 1037 B-18**  
**M.Sc. I Semester Degree Examination**  
**ZOOLOGY**  
**(Genetics and Evolution)**  
**Paper - H.C.T. 1.3**  
**(New)**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

- 1) *Answer all questions.*
- 2) *Illustrate your answer wherever necessary*

1. Answer the following.

**(8×2=16)**

- a) Meiotic drive
- b) Pleiotropism
- c) Genetic death
- d) Linkage maps
- e) Eugenics
- f) Darwinism
- g) DNA repair
- h) Molecular Clock

2. a) Explain genetic variations in natural populations.

**(16)**

**(OR)**

b) Write a note on induced mutations in humans.

3. a) Describe the evolution of horse.

**(16)**

**(OR)**

b) Explain origin of multicellular organisms.

**PGIS-N 1037 B-18/2018**

**(1)**

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4. Write an explanatory notes on any **TWO** of the following.

(2×8=16)

- a) Extra chromosomal inheritance
- b) Hardy-Weinberg law.
- c) Modes of Speciation.

5. Write short notes on any **FOUR** of the following:

(4×4=16)

- i) Allelic frequency
  - ii) DNA repair
  - iii) Evolutionary rate
  - iv) Chemical mutagens
  - v) Conservation of gene
  - vi) Neo Lamarckism.
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