

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : IX - A & B

[New Syllabus]

Full Marks : 50

Time : Two Hours

Important Instructions for Multiple Choice Question (MCQ)

- Write Subject Name and Code, Registration number, Session and Roll number in the space provided on the Answer Script.

Example : Such as for Paper III-A (MCQ) and III-B (Descriptive).

Subject Code :

III	A	&	B
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Subject Name :

- Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct Alternative [i.e. (A)/(B)/(C)/(D)] against each Question No. in the Answer Script.

Example – If alternative A of 1 is correct, then write :

1. – A

- There is no negative marking for wrong answer.

মাল্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

- উত্তরপত্রে নির্দেশিত স্থানে বিষয়ের (Subject) নাম এবং কোড, রেজিস্ট্রেশন নম্বর, সেশন এবং রোল নম্বর লিখতে হবে।

উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code : III A & B

Subject Name :

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Turn Over

Paper Code : IX-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. The ability to taste phenylthiocarbamide (PTC) is a trait controlled by 2 alleles (PTC taster and PTC non-taster). Suppose 36% of a remote mountain village cannot taste PTC and must, therefore, be homozygous recessive (aa) for the PTC non-taster allele. If this population conforms to Hardy-Weinberg expectations for this gene, what percentage of the population must be homozygous (AA) for the PTC taster allele ?
 - (A) 48%
 - (B) 40%
 - (C) 16%
 - (D) 32%

2. Which of the following does NOT tend to promote speciation ?
 - (A) founder effect
 - (B) reproductive isolation
 - (C) natural selection
 - (D) gene flow

3. Which of the following are the postulates of Darwin's theory of evolution?
 - (A) Within any population, there is natural variation.
 - (B) Even though all species produce a large number of off springs, populations remain fairly constant naturally.
 - (C) The struggle for survival within populations eliminates the unfit individuals.
 - (D) All of the above.

Turn Over

4. The wings of insects and the wings of bats represent a case of —
- (A) Divergent evolution
 - (B) Convergent evolution
 - (C) Parallel evolution
 - (D) Neutral evolution
5. Which of the following basic processes affect the Hardy Weinberg equilibrium ?
- (A) Mutation and recombination
 - (B) Gene migration and genetic drift
 - (C) Natural selection
 - (D) All of these
6. Which one of the following is NOT covered under Taxonomy ?
- (A) Alpha taxonomy
 - (B) Beta taxonomy
 - (C) Delta taxonomy
 - (D) Gamma taxonomy
7. Example of a branch-runner :
- (A) Squirrel
 - (B) Sloth
 - (C) Gibbon
 - (D) Orangutan

Turn Over

8. The interaction in which an individual gives up or sacrifices some of its own reproductive potential to benefit another individual is called —
- (A) Territory
 - (B) Altruism
 - (C) Cooperation
 - (D) Fixed Action Pattern
9. Learning is a durable change in behaviour as a result of —
- (A) Instinct
 - (B) Experience
 - (C) Imprinting
 - (D) Altruism
10. Synonym is —
- (A) Two organisms with one name
 - (B) One organism with two names
 - (C) Same genus and species name
 - (D) None of these
-

Turn Over

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : IX-B

[New Syllabus]

Full Marks : 40

Time : One Hour Thirty Minutes

The figures in the margin indicate full marks.

Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit - 1

(Taxonomy and Animal Behaviour)

1. Answer any *two* questions : 4×2=8
 - (a) Write a short note on molecular taxonomy.
 - (b) Comment on sign stimulus and how such stimulus can elicit a fixed action pattern.
 - (c) Define kinesis and its types.
 - (d) Write a short note on 'law of priority'.

2. Answer any *one* question : 12×1=12
 - (a) What do you mean by parental investment? Discuss with examples the phenomenon of parental investment as seen in fishes. Comment on the cost and benefit of such kind of animal behaviour. 2+7+3=12
 - (b) Define the concept of uniqueness, universality and stability of Zoological nomenclature. Elaborate on the salient features of the International Code of Zoological Nomenclature. 2+2+2+6=12

Turn Over

- (c) Define Eusociality. Write two important characteristics of Eusocial insects. State the significance of sterile caste in a termite colony. Add a note on Waggle dance of honey bee. $2+2+4+4=12$

Unit - 2

(Adaptation and Evolution)

3. Answer any *two* questions : $4 \times 2 = 8$
- (a) Write short note on adaptive radiation.
 - (b) State briefly the modern synthetic theory of evolution.
 - (c) Isolation leads to speciation. Justify the statement.
 - (d) Write short note on natural selection.
4. Answer any *one* question : $12 \times 1 = 12$
- (a) Define fossil. Describe briefly the different types of fossils. Write the significance of fossils. $2+6+4=12$
 - (b) Define with example protective and aggressive colouration. Write down the structural modifications for volant adaptations in birds. What do you mean by hybrid infertility or hybrid breakdown? $4+4+4=12$
 - (c) Describe the geographic boundary, climatic features and common vertebrate fauna of the Oriental realm. Comment on filter routes and sweep stake routes. $(3+2+3)+2+2=12$
-

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : X - A & B

[New Syllabus]

Full Marks : 50

Time : Two Hours

Important Instructions for Multiple Choice Question (MCQ)

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Example : Such as for Paper III-A (MCQ) and III-B (Descriptive).

Subject Code :

III	A	&	B
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Subject Name :

- Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct Alternative [i.e. (A)/(B)/(C)/(D)] against each Question No. in the Answer Script.

Example – If alternative A of 1 is correct, then write :

1. – A

- There is no negative marking for wrong answer.

মাল্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

- উত্তরপত্রে নির্দেশিত স্থানে বিষয়ের (Subject) নাম এবং কোড, রেজিস্ট্রেশন নম্বর, সেশন এবং রোল নম্বর লিখতে হবে।

উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code :

III	A	&	B
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Subject Name :

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Turn Over

Paper Code : X-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. No adaptive immune response without _____.
 - (A) T lymphocytes
 - (B) B lymphocytes
 - (C) Plasma cells
 - (D) NK Cells

2. *Schistosoma haematobium* mostly occurs
 - (A) Australia and Middle East Asia
 - (B) Africa, North America, Australia
 - (C) Middle East Asia, South East Asia and Africa
 - (D) Africa, Middle East and Indian Oceans

3. What is common among these three SARS-CoV-2, SARS-CoV and MERS-CoV
 - (A) All are Corona Virus
 - (B) All are zoonotic virus
 - (C) Only A is correct
 - (D) Both A & B is correct

Turn Over

4. Which immunoglobulin has pentameric symmetry ?
- (A) IgD
 - (B) IgG
 - (C) IgM
 - (D) IgE
5. In the medium other than nutrients, if any substance is used in excess, that medium is
- (A) Enriched medium
 - (B) Special medium
 - (C) Enrichment medium
 - (D) None of these
6. Bacteria which need oxygen for growth are called
- (A) Thermophilic bacteria
 - (B) Microaerophilic bacteria
 - (C) Facultative anaerobic bacteria
 - (D) Mycobacteria
7. Food poisoning is caused by
- (A) *Clostridium tetani*
 - (B) *Clostridium Welchi*
 - (C) Diphtheria
 - (D) *Clostridium botulinum*

Turn Over

8. Lyme disease is caused by
- (A) Bacteria
 - (B) Fungi
 - (C) Spirochaete
 - (D) Virus
9. Which of the following is not a characteristic of biofilms ?
- (A) antibiotic resistance
 - (B) hydrogel
 - (C) iron deficiency
 - (D) quorum sensing
10. Which of the following types of media would not be used to culture aerobes ?
- (A) selective media
 - (B) reducing media
 - (C) enrichment media
 - (D) differential media
-

Turn Over

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : X-B

[New Syllabus]

Full Marks : 40

Time : One Hour Thirty Minutes

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Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit - 1

(Microbiology and Immunology)

1. Answer any *two* questions : 4×2=8
 - (a) Describe briefly the agglutination reaction.
 - (b) What is stab culture ?
 - (c) What are apoptosis and necrosis?
 - (d) Write short note on bacterial endospores.

2. Answer any *one* question. 12×1=12
 - (a) Explain food pathogen and food spoilage bacteria with example. What is the causative agent of leptospirosis? Describe briefly on treatment of Leptospirosis. Mention the difference between epizootic and enzootic; give one example of each. 4+1+2+5=12
 - (b) Write a short note on Antibody Dependent Cell mediated Cytotoxicity. Add a note on NK cell. What are B-lymphocytes and T-lymphocytes ? 4+4+(2+2)=12

Turn Over

- (c) Write a short note on glycocalyx. Define synergism. What do you mean by R-plasmid? Add a note on bacterial cell wall. $4+2+2+4=12$

Unit-2
(Parasitology and Medical Zoology)

3. Answer any *two* questions : $4 \times 2 = 8$
- (a) Define zoonosis and biological vector.
 - (b) What is phoresis ? What is hyperparasitism?
 - (c) Write the role of *Culex* mosquito in disease transmission.
 - (d) Mention some serological tests used to diagnose Malaria.
4. Answer any *one* question : $12 \times 1 = 12$
- (a) Name the infective stage of *Entamoeba histolytica* in man. Explain its life cycle, pathogenicity and treatment. $1+(5+3+3)=12$
 - (b) Define parasitoidism. Write a short note on host-parasite interaction. Name the causative agent and vector of the yellow fever. What is paratenic host ? $2+6+2+2=12$
 - (c) Differentiate hard tick and soft tick. State the role of ticks in disease transmission. Describe briefly the control measure of ticks. Name the causative agent and vector of Japanese encephalitis. $3+4+3+2=12$
-

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : XI - A & B

[New Syllabus]

Full Marks : 50

Time : Two Hours

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Subject Code :

III	A	&	B
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Subject Name :

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Example — If alternative A of 1 is correct, then write :

1. — A

- There is no negative marking for wrong answer.

মান্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

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উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code :

III	A	&	B
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Subject Name :

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Turn Over

Paper Code : XI-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. Population density is affected by
 - (A) Natality
 - (B) Mortality
 - (C) Immigration and emigration
 - (D) All of the above

2. The carrying capacity of a population is determined by its
 - (A) Population Growth Rate
 - (B) Natality
 - (C) Mortality
 - (D) Limiting Resources

3. Organisms with very high intrinsic growth rates have
 - (A) Long generation times
 - (B) Short generation times
 - (C) No courtship behaviours
 - (D) No carrying capacities

Turn Over

4. The geographic limits within which a population exists is its-
- (A) Niche
 - (B) Habitat
 - (C) Range
 - (D) Territory
5. Which one of the following is the correct sequence of the process of succession ?
- (A) Migration-Nudation-Competition-Reaction-Stabilization
 - (B) Nudation-Migration-Ecesis-Competition-Reaction-Stabilization
 - (C) Ecesis-Migration-Competition-Stabilization-Reaction
 - (D) Nudation-Ecesis-Migration-Competition-Reaction-Stabilization
6. A group of individuals of the same age within a population is called —
- (A) Clone
 - (B) Cline
 - (C) Cohort
 - (D) Community
7. Each successive trophic level has
- (A) Less total energy
 - (B) More total energy
 - (C) Increased total energy
 - (D) Non-estimated energy contents

Turn Over

8. Itai-Itai disease is caused by
- (A) Cd
 - (B) Hg
 - (C) Pb
 - (D) As
9. Botulism is caused by-
- (A) Bacteria
 - (B) Virus
 - (C) Protozoa
 - (D) Helminth
10. Which of the following is a secondary pollutant?
- (A) CO₂
 - (B) SO₂
 - (C) PAN
 - (D) None of the above
-

Turn Over

2020

ZOOLOGY (Honours)

Paper Code : XI-B

[New Syllabus]

Full Marks : 40

Time : One Hour Thirty Minutes

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Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit - 1

(Ecology)

1. Answer any **two** questions:

4x2 = 8

- (a) Explain commensalism and mutualism with examples.
- (b) Comment on J-shaped and S-shaped growth curves.
- (c) Write a short note on "Biotic Potential".
- (d) Briefly describe the components of 'Universal model' of energy flow.

2. Answer any **one** question:

12x1=12

- (a) What do you mean by Grazing and Detritus Food chains? Explain Y-shaped energy flow model with its components and significance. Differentiate r-selected and k-selected species.

(2+6+4=12)

Turn Over

(b) Define indicator species. Describe survivorship curves based on survivors and age with examples. Briefly explain the carbon cycle. (1+6+5=12)

(c) What do you mean by fundamental and realized niche? Define "Resource Partitioning". Write in detail about different types of population interactions.

2+2+8=12

Unit-2

(Environmental Biology and Toxicology)

3. Answer any *two* questions: 4x2 = 8

(a) Explain Bio-magnification and its effects.

(b) Comment on acute and chronic toxicity

(c) Why BOD and COD are important for aquatic environment?

(d) Write a short note on "Automobile emission as health hazard".

4. Answer any *one* question: 12x1=12

(a) Define water pollution. What are the sources and effects of water pollution? Add a note on photochemical smog. (2+6+4=12)

(b) Define Habitat. Explain the nature of destruction of wetlands in our country along with its consequences. Comment on ecological impacts of tourism.

2+6+4=12

(d) Define Heavy Metals. Explain in detail the adverse effects of Lead and Cadmium poisoning in the ecosystem. What is the mechanism of arsenic toxicity in humans?

2+6+4=12

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : XII - A & B

[New Syllabus]

Full Marks : 50

Time : Two Hours

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1. – A

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উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code :

III	A	&	B
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Subject Name :

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Turn Over

Paper Code : XII-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. Gyrase is an example of

- (A) Helicase
- (B) Primase
- (C) Topoisomerase
- (D) Ligase

2. Choose the correct matching.

- (A) DNA polymerase I : Has only 3'→5' exonuclease activity
- (B) DNA polymerase III: Has less processivity
- (C) β subunit of DNA polymerase III: Acts as clamp loader
- (D) α subunit of DNA polymerase III: Has the polymerase activity.

3. Amber codon is

- (A) UAG
- (B) AUG
- (C) UGA
- (D) UAA

Turn Over

4. DNA ligase

- (A) adds nucleotide in 5'-3' direction and join the phosphodiester bond between two adjacent DNA strands.
- (B) adds nucleotide in 3'-5' direction and join the phosphodiester bond between two adjacent DNA strands.
- (C) does not add nucleotide only joins phosphodiester bond between two adjacent DNA strand.
- (D) removes RNA nucleotides and joins phosphodiester bond between two adjacent DNA strands.

5. Which of the following is not the property of cancer cells

- (A) Angiogenesis
- (B) Apoptosis inhibited
- (C) Anchorage independent
- (D) Telomere shortening

6. Fragments of DNA formed after treatment with endonucleases are separated by the technique

- (A) Polymerase Chain Reaction
- (B) Southern Blotting
- (C) Colony hybridization
- (D) Electrophoresis

7. Dideoxynucleotides are used in

- (A) chemotherapy
- (B) DNA repair
- (C) Sanger method for DNA sequencing
- (D) Maxam-Gilbert method of DNA sequencing

Turn Over

8. A RNA virus can be detected by

- (A) RT-PCR
- (B) Realtime PCR
- (C) Normal PCR
- (D) Realtime RT-PCR

9. cDNA is

- (A) circular DNA
- (B) coiled DNA
- (C) cytoplasmic DNA
- (D) complementary DNA

10. Restriction endonucleases

- (A) are synthesized by bacteria as part of their defence mechanism
 - (B) are present in mammalian cells for degradation of DNA when the cells die
 - (C) are used in genetic engineering for ligating two DNA molecules
 - (D) are used for in vitro DNA synthesis
-

Turn Over

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : XII-B

[New Syllabus]

Full Marks : 40

Time : One Hour Thirty Minutes

The figures in the margin indicate full marks.

Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit-1

(Molecular Biology)

1. Answer any *two* questions:

4x2= 8

- (a) Write short note on replisome.
- (b) Write a note on chemical structure of nucleic acids.
- (c) Write short note on rolling circle replication.
- (d) Write a note on translocational activation of proto oncogenes.

Turn Over

2. Answer any *one* question:

12 x 1= 12

(a) Describing an experiment, prove that DNA replication occurs in semi-conservative manner. Compare DNA polymerase-I and DNA polymerase-III of prokaryotes. What is the importance of 5' to 3' exonuclease activity of DNA polymerase-I? Briefly describe the function of Telomerase in DNA replication.

6+2+2+2= 12

(b) Differentiate between tumor Suppressor genes and oncogenes. Describe the process of regulation of cell cycle by pRB gene. Write a note on molecular mechanism of Spontaneous mutations.

2+5+5 = 12

(c) Describe how tautomers can induce mutation. Write a note on frame-shift mutation. Discuss how mutation can affect human health with suitable examples.

4+4+4= 12

Unit-2
(Biotechnology)

3. Answer any *two* questions:

4 x 2= 8

(a) Write short note on restriction endonuclease.

(b) Give a flow chart of bioremediation of pesticide

(c) Write a note on application of DNA finger printing in forensic science

(d) What is reporter gene? Describe blue-white selection by reporter gene.

Turn Over

4. Answer any *one* question:

12 x 1= 12

(a) Define monoclonal antibody. Describe the hybridoma technology to generate monoclonal antibody. 2+10=12

(b) What is Western Blotting? State the principle of Western Blot method. Write the process and applications of Western Blotting. 2+2+6+2=12

(c) Mention the criteria for good PCR primer. Write a note on real time PCR. Describe the application of PCR in diagnosis of genetic disease. 3 + 5 + 4 =12

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : XIII - A & B
[New Syllabus]

Full Marks : 50

Time : Two Hours

Important Instructions for Multiple Choice Question (MCQ)

- Write Subject Name and Code, Registration number, Session and Roll number in the space provided on the Answer Script.

Example : Such as for Paper III-A (MCQ) and III-B (Descriptive).

Subject Code :

III	A	&	B
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Subject Name :

- Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct Alternative [i.e. (A)/(B)/(C)/(D)] against each Question No. in the Answer Script.

Example — If alternative A of 1 is correct, then write :

1. — A

- There is no negative marking for wrong answer.

মাল্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

- উত্তরপত্রে নির্দেশিত স্থানে বিষয়ের (Subject) নাম এবং কোড, রেজিস্ট্রেশন নম্বর, সেশন এবং রোল নম্বর লিখতে হবে।

উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code :

III	A	&	B
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Subject Name :

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- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Paper Code : XIII-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. Process of spermatogenesis is under the regulatory influence of
 - (A) Oxytocin
 - (B) Vasopressin
 - (C) Follicle stimulating hormone
 - (D) Luteotropic hormone

2. End product of Spermatogenesis is:
 - (A) Spermatozoa
 - (B) Sprematocytes
 - (C) Spermatids
 - (D) Secondary Sprematocytes

3. Iodination of thyroid hormones is mediated by
 - (A) Lysosomes in the cell
 - (B) The golgi apparatus
 - (C) Colloid endocytosis
 - (D) Peroxidase enzyme

4. Prothoracicotropic hormone (PTTH) in insects is secreted by
- (A) Corpora cardiaca
 - (B) Corpora allata
 - (C) Prothoracic glands
 - (D) All of the above
5. Grey crescent is the area
- (A) at the point of entry of sperm into ovum
 - (B) just opposite to the site of entry of sperm into ovum
 - (C) at the animal pole
 - (D) at the vegetal pole
6. The process by which an embryo tissue influences other tissues to differentiate is called
- (A) Induction
 - (B) Organizer
 - (C) Stimulation
 - (D) Activation
7. Role of parathormone in the human body
- (A) decreases blood sodium level
 - (B) increases blood sodium level
 - (C) decreases blood calcium level
 - (D) increases blood calcium level

8. Which of the following hormones would bind to receptors located on the inside of a cell?

- (A) Testosterone
- (B) FSH
- (C) Prolactin
- (D) Growth Hormone

9. Which of these hormones is NOT secreted from Hypothalamus

- (A) PRH
- (B) FSH
- (C) CRH
- (D) TRH

10. In oogenesis how many polar bodies are formed at the end of the meiotic division?

- (A) 2
- (A) 4
- (C) 3
- (D) 6

P - III (1+1+1) H / 20 (N)

2020

ZOOLOGY (Honours)

Paper Code : XIII-B

[New Syllabus]

Full Marks : 40

Time : One Hour Thirty Minutes

The figures in the margin indicate full marks.

Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit-1

(Developmental Biology and Teratology)

1. Answer any *two* questions.

4X2=8

- (a) What do you mean by slow-block to polyspermy?
- (b) Write physiological role of placenta in human.
- (c) Write Short note on acrosomal reaction in sea-urchin.
- (d) Differentiate between Radial and Biradial cleavage

2. Answer any *one* question:

12x1=12

(a) What do you mean by teratogen? Discuss the role of drugs and alcohols as teratogen.
Add a note on regeneration.

4+ 4+4 = 12

(b) Explain the 'Fertilizin-Antifertilizin' reaction. With a labeled diagram describe the fate map of Frog.

4+(4+4) =12

(c) Define external fertilization. Write a note on IVF. Write a short note on metamorphosis of frog and its hormonal control. What is Acrosomal reaction?

2+4+4+2=12

Unit-2

(Endocrinology and Reproductive Biology)

3. Answer any *two* questions:

4x2=8

(a) How pancreatic hormones maintain physiological metabolism?

(b) State the role of L. H. in ovulation.

(c) What do you mean by T3 and T4?

(d) Write about the hormonal interaction in estrous cycle.

4. Answer any *one* question.

12x1=12

(a) Write the composition of mature breast milk. Why cow's milk is not best alternative of breast milk? Write a note on acromegali. What is meconium? What is Panhypopituitarism?

2+2+4+2+2=12

(b) Mention the characters of luteal phase of menstrual cycle. Write briefly about parturition.

8+4=12

(c) Write briefly about Corpora cardiaca and Corpora alata. Write the different mechanisms of actions of endocrine, paracrine and autocrine hormones.

6+6=12