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).

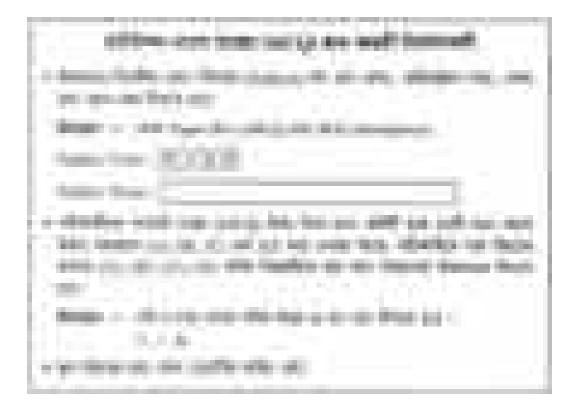
Subject Code :	III	Α	&
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• Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct 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

В

• There is no negative marking for wrong answer.



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.

- 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

- 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

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 :

- (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 :
 - (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

(6)

 $4 \times 2 = 8$

12×1=12

 (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 :
 - (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 :

- (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

(7)

 $4 \times 2 = 8$

12×1=12

2020

ZOOLOGY (Honours)

Paper Code : X - 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

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.



(2)

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

- 4. Which immunoglobulin has pentamerous 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) Clostridum tetani
 - (B) Clostridum Welchi
 - (C) Diphtheria
 - (D) Clostridium botulinum

- 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

2020

ZOOLOGY (Honours) Paper Code : X-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

(Microbiology and Immunology)

1. Answer any *two* questions :

 $4 \times 2 = 8$

 $12 \times 1 = 12$

- (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.

- (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

(6)

(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 :

 $4 \times 2 = 8$

12×1=12

- (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 :
 - (a) Name the infective stage of *Entamoeba histolytica* in man. Explain its life cycle, pathogenicity and treatment. l+(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

(7)

2020

ZOOLOGY (Honours)

Paper Code : XI - 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

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.



(2)

Paper Code : XI-A

Full Marks: 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.





(3)



- 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 —



(4)



(5)

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

2020

ZOOLOGY (Honours) Paper Code : XI-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.







(6)





(Environmental Biology and Toxicology)



(7)

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

2020

ZOOLOGY (Honours)

Paper Code : XII - 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).

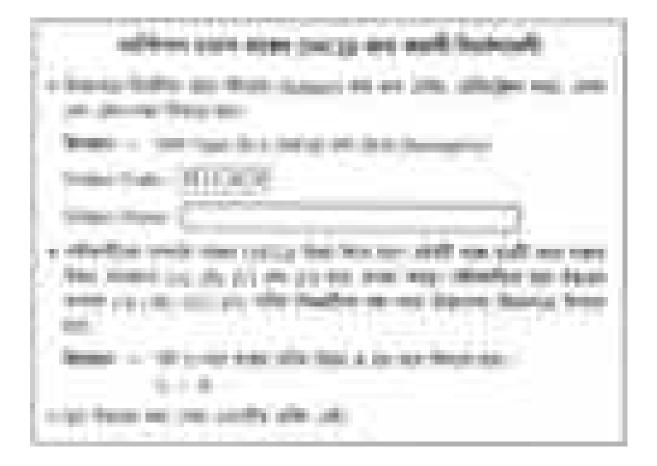
Subject Code :	III	А	&	В

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.



Paper Code : XII-A

Full Marks : 10

Time : Thirty Minutes

Choose the correct answer.

Each question carries 1 mark.







(4)



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)





Unit-2 (Biotechnology)





2020

ZOOLOGY (Honours)

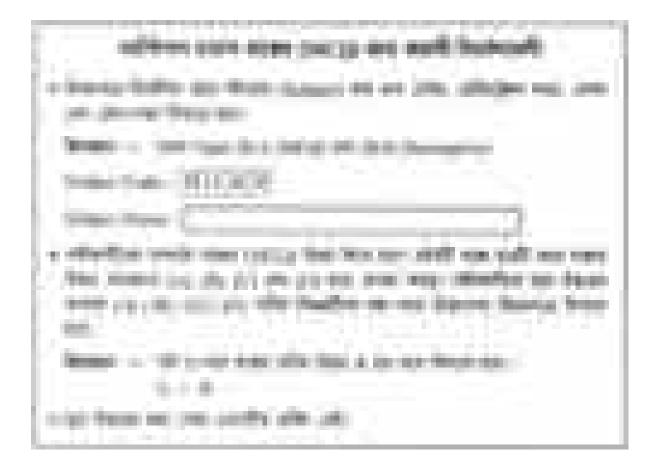
Paper Code : XIII - A & B [New Syllabus]

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
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.

Page: 1 of 8



Page: 2 of 8

Paper Code : XIII-A

Full Marks: 10

Time : Thirty Minutes

Choose the correct answer.

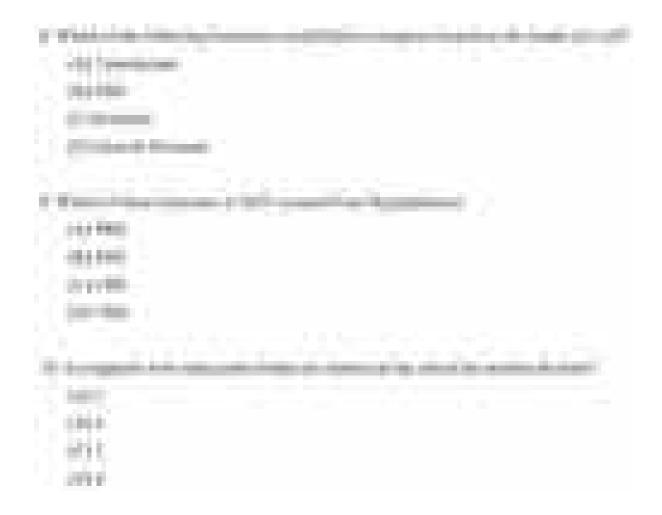
Each question carries 1 mark.



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Page: 4 of 8



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2020

ZOOLOGY (Honours) Paper Code : XIII-B [New Syllabus]

Full Marks: 40

Time : One Hour Thirty Minutes

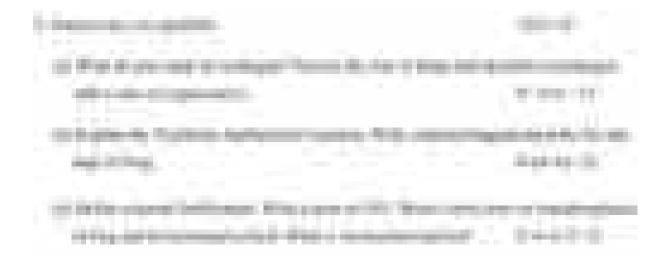
The figures in the margin indicate full marks. Write your answer maximum within one page for the questions carrying 4 marks each and maximum within three pages for the questions carrying 12 marks each.

Unit-1

(Developmental Biology and Teratology)







Unit-2 (Endocrinology and Reproductive Biology)



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Page: 8 of 8