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(Zoology)

SREE NARAYANA COLLEGE, PUNALUR

Fifth Semester B.Sc. Degree Model Examination, November 2019

First Degree Programme in Zoology

Core Course - Immunology and Microbiology

Time: 2 Hours

Maximum Marks : 50

Instruction : Draw Diagrams wherever necessary

I. Answer all questions. Each question carries 1 mark

1. Epitopes
2. NK Cells
3. Vaccination
4. Prions
5. Ornithosis
6. Hyper sensitivity
7. Mycoplasma
8. Viroids
9. Differentiate between exotoxin and endotoxin.

(09 x1= 09 marks)

II. Answer any 5 questions. Each question carries 2 marks

10. Archaea .
11. What is cell mediated immunity.
12. What are Cytokines.
13. DNA Vaccination.
14. Write an account on Bacillus thuringensis.
15. Comment on any four fungal diseases.
16. Rhizobium
17. Structure of Lambda phage.

(5x2 = 10 marks)

III. Answer any 4 questions. Each question carries 4 marks

18. Explain Clonal selection hypothesis..
19. Give an outline of classification of bacteria based on Bergey's Manual of Systematic Bacteriology.
20. Comment on Normal human Microbiota of various organs.
21. Define Autoimmunity. Briefly explain the Mechanism involved. Add a note on Autoimmune Diseases.
22. Describe about Chemolithotrophic bacteria..
23. Define the term Vaccination. Mention any 3 vaccines and respective diseases prevented by them.
24. Write an account on Structure and Functions of MHC.
25. Briefly explain about major organs and tissues involved in immune system.
26. Briefly explain the Structure of a typical bacterium. (4x4= 16 marks).

IV. Answer any 1 questions. Each question carries 10 marks

27. Write an essay on formation, development and maturation of various type of cells involved in immune system.
28. With suitable examples, briefly outline the features of major immunodeficiency disorders.
29. Discuss in detail about Microbes of Agricultural importance.
30. Explain the cause, symptoms and treatment of any three bacterial diseases. (1x15 = 15 marks)

Zoology 10
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SREE NARAYANA COLLEGE, PUNALUR

Fifth Semester B.Sc. Degree Model Examination, November 2021

First Degree Programme in Zoology

Genetics and Biotechnology

Time: 2 Hours

Maximum Marks :40

Instruction : Draw Diagrams wherever necessary

I. Answer all questions. Each question carries 1 mark

1. What are Barr bodies?
2. Define phenotype.
3. What is a Test Cross?
4. Define Allele?
5. What is Monohybrid Cross?
6. What are Lethal Genes?
7. Define Genome
8. Explain lethal gene with examples
9. Comment on Freemartin in cattle
10. What is Erythroblastosis foetalis?

(10x1=10 marks)

II. Answer any 4 questions. Each question carries 2 marks

8. What are Wild.type and Mutant Alleles?
9. Explain Co-dominance and In-complete Dominance.
10. Write on Euploidy and Aneuploidy.
11. Discuss on Klinefelter's Syndrome and Turner's Syndrome.
12. Write note on Autosomes and Sex Chromosomes
13. Explain about Criss-Cross inheritance pattern.

Level - 10, 11

14. Comment on Dosage Compensation.
15. What are Complementary Genes? Give example.
16. Difference between Cytoplasmic inheritance and Nuclear inheritance
17. Explain Gynandromorphs
18. Explain the role of environment in determining the sex determination in *Bonellia*

(4x2 = 8 marks)

III. Answer any 3 questions. Each question carries 4 marks.

17. Write short note on Chromosome Theory of heredity.
18. What is sex-linked inheritance, explain with an example.
19. Discuss on the Polygene concept with reference to skin-colour inheritance in Man.
20. Give a brief account on Mutation and types
21. Describe the mechanism of crossing over and add a note on its significance in cells.
22. Discuss on the Haploid-Diploid mechanism of sex determination in honey bees.
23. Explain the role of kappa particles in *Paramecium*.
24. Explain biochemical pathway of Phenylalanine- Tyrosine metabolism
25. Explain Genic Balance Theory

(4x3= 12marks)

IV. Answer any 1 question. Each question carries 10 marks

26. What are the laws of Mendel. explain with reference to the monohybrid and dihybrid crosses.
27. Write an essay about Interaction of Genes with suitable examples.
28. Give a brief account on the various mechanisms of sex determination.

(1x10 = 10 marks)

SREE NARAYANA COLLEGE, PUNALUR
Fifth Semester B.Sc. Degree Model Examination, November 2021
First Degree Programme in Zoology
Open Course
Public Health and Hygiene

Time: 1.30 Hours

Maximum Marks : 40

Instruction : *Draw Diagrams wherever necessary*

I. Answer all questions. Each question carries 1 mark

1. Goiter
2. Rh factor
3. SARS
4. Zoonosis
5. Define Health. Spectrum of Health
6. Differentiate between epidemic and Pandemic disease
7. BMI
8. Why O blood group is a universal donor?
9. Name four contraceptives.
10. Define Health

(10x1=10 marks)

II. Answer any 4 questions. Each question carries 2 marks

11. Cyber addiction. Mention any four Symptoms.
12. Write an account on Harmful effects of Mobile phone radiation.
13. Comment on any four Mosquito control measures.
14. Write about any two impacts of lack of Physical Exercise.
15. What is Diabetes?
16. Ill effects of nicotine.

17. Emphysema

18. Write short note on Balanced Diet.

19. What is HDL and LDL?

20. Passive smoking.

(4 x 2 = 08 marks)

III. Answer any 3 questions. Each question carries 4 marks

21. Describe about Disease Cycle.

22. Define the term Vaccination. Mention any 3 vaccines and respective diseases prevented by them.

23. Write an account on major vector-borne diseases.

24. Briefly explain about major health issues related to computer overusage.

25. What are Emerging diseases? Briefly explain about any four.

26. Comment on drug abuses and its social effects.

27. What is Protein Energy Malnutrition? Discuss with examples.

28. Explain diet control for cholesterol.

29. What is Pasteurization? What are the different methods of Pasteurization?

30. Describe various contraceptives in population control.

(3 x 4 = 12 marks)

IV. Answer any 1 question. Each question carries 10 marks

31. What are the ABO blood group systems? Comment on its importance in blood transfusion.

32. Discuss in detail about Major food borne and water borne diseases.

33. Write an account on any five Sexually Transmitted diseases (STD)/ Venereal Diseases.

34. What are the Defects of Modern Food Habits? Discuss.

35. Write an essay on the ill effects of alcoholism and smoking.

(1x10 = 10 marks)

SREE NARAYANA COLLEGE, PUNALUR

Third Semester B.Sc. Degree Model Examination, March, 2021

First Degree Programme in Zoology

Core Course code. Z01341 - Experimental zoology, Instrumentation, Biostatistics and Bioinformatics

Time : 3 Hours

Maximum Marks : 80

Instruction : Draw Diagrams wherever necessary

I. Answer 10 questions. Each question carries 1 mark

1. Name any two search engines?
2. What is application software? Write two examples.
3. What is USB?
4. Define cache.
5. Rf Value
6. Numerical Aperture.
8. Colorimeter
9. Standard error
10. Frequency Polygon
11. Pie Chart
12. Plagiarism

(10x1=10 marks)

II. Answer any 8 questions. Each question carries 2 marks

13. Give notes single poly nucleotide polymorphism.
14. Briefly describe operating systems.
15. Explain patent.
16. Describe homology modeling.
17. What is IPR? Write its significance in globalization.
18. Comment on Rasmol.
19. Discuss PHYLIP.
20. Name four major research institute and their main activities.

21. Name five useful Biological Websites
22. Opportunities as a Zoologist.
23. Oil immersion objectives
24. Differences between census and Sample Survey
25. Standard Deviation
26. Chi-Square test
27. Normal Distribution
28. IPR

(8x2 = 16 marks)

III. Answer any 6 questions. Each question carries 4 marks

29. Hydrophobicity prediction
30. Explain drug discovery pipeline.
31. Distinguish between MSDOS and LINUX.
32. Explain the working Principle and Applications of Phase Contrast Microscope
33. Dark Field Microscope
34. Explain Probability and theory associated with Probability.
35. Describe Null Hypothesis and Alternative Hypothesis with Example.
36. Types of Microtomes.
37. Chromatography
38. Branches of Biology

(6x4 = 24 marks)

IV. Answer any 2 questions. Each question carries 15 marks

32. Explain bio molecular databases.
33. Describe DNA sequencing.
34. Differentiate between SEM and TEM
35. Write an essay on difference between light microscope and Electron Microscope
36. Write an essay on Measures of Central Tendency.
37. Explain Graphical representation of Data.

(15x1 = 15 marks)

SREE NARAYANA COLLEGE, PUNALUR

Second Semester B.Sc. Degree Model Examination, December 2021

First Degree Programme in Zoology

Core Course ZO1441-ANIMAL DIVERSITY II

Time: 1 Hour 30 Minutes

Maximum Marks: 40

Instruction: *Draw Diagrams wherever necessary*

I. Answer all questions. Each question carries 1 mark

1. What is endostyle?
2. What is air bladder?
3. Which are the four types of teeth in man?
4. Define neotony with example.
5. Explain Ammocoete larva.
6. What are microvilli?
7. What is a living fossil? Give example.
8. Any four salient features of order Urodela
9. Axolotl larva
10. Reasons behind bird migration

(10x1=10 marks)

II. Answer any 4 questions. Each question carries 2 marks

11. Comment on Dipnoi with suitable example.
12. Explain the peculiarities of *Latimeria*
13. Distinguish between Agnatha and Gnathostomata.
14. Write short notes on various formed elements of blood.
15. Give the general characters of Amphioxus.
16. What is peritoneum?

17. Mention four distinguishing characters of Phylum Chordata.
18. Distinguish between Poikilotherms and Homeotherms
19. Detail the adaptations seen in Draco & Chameleon.
20. Features of Struthio
21. Neural arch

(4x2 = 8 marks)

III. Answer any 3 questions. Each question carries 4 marks

22. Give an account on any two alien fish and its impact on indigenous diversity.
23. Classify Superclass Pisces.
24. Describe the Class Cyclostomata with example.
25. Explain the structure of eye with diagram.
26. Describe arterial system of vertebrates.
27. Explain Alternation of generation in *Salpa*.
28. Comment on Archaeopteryx its reptilian and avian characters.
29. Write notes on retrogressive metamorphosis in Ascidia
30. Describe accessory respiration in fishes

(4x3 = 12 marks)

IV. Answer any 1 questions. Each question carries 10 marks

31. Write an essay on Aves classification.
32. Explain the keys to identify Poisonous snakes and non-poisonous snakes
33. Explain evolutionary significance of Branchiostoma

(10x1 = 10 marks)

SREE NARAYANA COLLEGE, PUNALUR

First Semester B.Sc. Degree Model Examination, October- 2018

First Degree Programme in Zoology

Core Course I ZO1341-ANIMAL DIVERSITY- I

Time: 1.5 Hours

Maximum Marks : 40

Instruction : *Draw Diagrams wherever necessary*

I. Answer all questions. Each question carries 1 mark

1. Define a carapace and petasma.
2. What are Malpighian tubules ?
3. What is Pseudocoleom ?
4. Name the larval forms of Prawn.
5. What is ommatidium ?

(5x1=5 marks)

II. Answer any 4 questions. Each question carries 2 marks

6. What is bioluminescence? Name two Protists which exhibit this phenomenon.
7. List out unique features of peripatus.
8. Explain five kingdom classification.
9. Comment on the principles of nomenclature.
10. Write the special characteristics of Pedicellaria.
11. Enumerate the salient features of Phylum coelentrata.
12. What are coral reefs? Enlist any four significance of coral reefs.
13. Differentiate between protostomes and deuterostomes.

(4x2 = 8 marks)

III. Answer any 3 questions. Each question carries 4 marks

14. Explain the salient features of Arthropoda.

15. Describe briefly the External characters of *Penaeus*.
16. Explain briefly the morphological features of Physalia.
17. What is vermicomposting? Give a brief description of the process and its uses.
18. Explain the features and parasitic adaptations of *Hirudinaria*.
19. Give a brief description of the mode of infection and life cycle of *Entamoeba histolitica*.
20. With diagrams write an account on Cephalic and abdominal appendages of Prawn.
21. Enumerate the general Characteristics of Phylum Onychophora.
22. Distinguish between polyp and Medusa.
23. Write an account on sericulture. (3x4= 12 marks)

IV. Answer any 1 questions. Each question carries 10 marks

24. Write an account of the life history, pathogenicity and preventive measures of *Plasmodium vivax*
25. Give an account on polymorphism in coelentrates.
26. Give an account of the life history, pathogenicity and prophylactic measures of *Fasciola hepatica*.
27. With a neat labeled Diagram explain the nervous system of Penaeus. (1x15 = 15 marks)

SREE NARAYANA COLLEGE, PUNALUR.

Fifth Semester B.Sc. Degree Model Examination, November - 2016

First Degree Programme under CBCSS

ZOOLOGY

Core Course – V

ZO1542: CELL BIOLOGY AND MOLECULAR BIOLOGY

Time: 3 Hours

Maximum Mark: 80

Instruction: *Draw Diagrams wherever necessary*

I . Answer all of the following Questions (In one or two Sentences). Each question carries 1 mark.

1. Transduction.
2. One gene one enzyme hypothesis.
3. Comment on Trans membrane proteins.
4. Distinguish between A-DNA and B-DNA.
5. Write notes on reverse Transcription.
6. Briefly describe Centrioles.
7. Distinguish between Active transport and Passive transport.
8. What is Chargaff rule.
9. Comment on TATA Box.
10. Give two postulates of Cell theory. **(10x1=10 marks)**

II. Answer any eight questions (not exceed one Paragraph). Each question carries 2 marks.

11. Okazaki Fragments.
12. Briefly describe the Structure of tRNA.
13. Write an account on DNA polymerases.
14. What are Transcription factors.
15. Synaptonemal Complex.
16. Describe Central Dogma of Molecular Biology.

17. Comment on Apoptosis.
18. Describe Cell Cycle
19. Give an account on Transmembrane transport.
20. Describe Griffith's experiments.
21. Features of Genetic Code.
22. Describe the Origin, structure and functions of Golgi Complex.
23. Wobble Hypothesis. (8x2=16 marks)

III. Answer any Six of the following questions (not to exceed 120 words). Each question carries 4 marks.

24. Watson and Crick model of DNA.
25. Write notes on Transcription.
26. Distinguish between Prokaryotic and Eukaryotic Cell.
27. Contributions of H. G. Khorana in molecular Biology.
28. Describe Hershey and Chase experiment.
29. Explain the Ultra Structure of Plasma Membrane.
30. Describe an experiment to prove Semi conservative mode of DNA replication.
31. Comment on Cytoskeleton and mention their functions.
32. Briefly explain the process of Translation.
33. Give an account on Mitosis.
34. Describe Operon Concept. (6x4=24 marks)

IV. Answer any two question. Each question carries 15 marks.

35. Describe the process of gene regulation in Prokaryotes.
36. Discuss the various theories of Aging.
37. Write an essay on characteristics and types of Cancer. Add a note on theories on the origin of cancer.
38. Write an account on Organization, components and functions of nucleus
39. Write an account on Structure, organization, biogenesis and functions of Mitochondria.

(2x15=30marks)

SREE NARAYANA COLLEGE, PUNALUR

SIXTH SEMESTER B.Sc. DEGREE MODEL EXAMINATION, MARCH 2016

FDP UNDER CBCSS - ZOOLOGY

ELECTIVE COURSE. ZO 1661.1: ECONOMIC ZOOLOGY- VERMICULTURE AND APICULTURE

TIME: 2 HOURS

MAXIMUM MARKS: 50

Instructions: *Draw Diagrams wherever necessary.*

I. Answer all questions (Each question carries 1 Mark)

1. Epigenic worms.
2. Royal Jelly
3. Clitellum
4. Open brood
5. Indigenous species used for Vermiculture.
6. Swarming
7. Species of honey bees used for commercial bee keeping. (7 x 1 = 7)

II. Answer any six questions (Each question carries 2 Mark)

8. Distinguish between Zygotobus and tanylobus prostomium.
9. African night crawlers
10. Vermiremediation.
11. Differentiate between lumbricine & perichaetine setae.
12. Vermi cast.
13. What are the different stages in the life cycle of *Apis cerana indica*.
14. Prothoracic legs of worker.
15. Forager /Field bees
16. Basic materials required in Vermicomposting? (6 x 2 = 12)

III. Answer any four questions (Each question carries 4 Mark)

17. Explain the economic uses of Vermiculture.
18. Explain the biological properties of Vermicompost.
19. Comment vermicompost teas and vermiwash.
20. Add notes on two species of earthworms used in vermicomposting.
21. Give a brief account on the life cycle of honey bees. (4 x 4 = 16)
22. Describe the social behavior in honey bees.

IV. Answer any one.

23. Write an essay on vermicompost profile.
24. Explain the economic uses of honey bee products. (15 x 1 = 15)

SREE NARAYANA COLLEGE, PUNALUR

Sixth Semester B.Sc. Degree Model Examination, March 2017

First Degree Programme in Zoology

Open Course – II: Z01651.1 ECONOMIC ZOOLOGY-APICULTURE AND VERMICULTURE

Time: 1.30 Hours

Maximum Weightage : 25

Instruction: *Draw Diagrams wherever necessary*

I. Answer all Questions

1. Indian blues
2. African night crawler
3. Epigeic worms
4. Vermicast
5. Drilosphere

II. Answer any five of the following

- 6) Explain epilobous and tanylobus.
- 7) Distinguish between clitellum and setae.
- 8) lumbricine and perichaetine
- 9) Vermi-wash and Vermicompost tea
- 10) Vermiremediation and raw materials for vermicomposting
- 11) Enviromental prerequisites of vermicomposting
- 12) Write notes on any two species of earth worm used in Vermicomposting in Kerala.
- 13) Explain the ecological categories of earthworms

(2x5=10 wt.)

III. Answer any one of the following:

- 14) Write an essay on vermicompast profile and applied aspects
- 15) Economic uses of vermiculture

(1x15=15 wt.)

SREE NARAYANA COLLEGE, PUNALUR

Fifth Semester B.Sc. Degree Model Examination, October 2015

First Degree Programme in Zoology

Open Course I ZO1551.1-PUBLIC HEALTH AND HYGIENE

Time: 2 Hours

Maximum Marks : 50

I. Answer all Questions

- 1) RDA
- 2) Geriatrics
- 3) Xerophthalmia
- 4) Opportunistic Infection
- 5) Zoonosis
- 6) Dental Caries
- 7) Hand sanitiser

II. Answer any Six of the following

(1 x 7 = 7)

- 8) Define health.
- 9) Name any two water borne and Food borne diseases.
- 10) Define vaccination
- 11) What is an epidemic? Give two examples.
- 12) Mention the advantage of exercise.
- 13) Define Body Mass Index (BMI).
- 14) Comment on Balanced Diet.
- 15) What is Toiletry ?
- 16) What is Probiotics

(2x6 = 12)

III. Answer any Four of the following

- 17) Describe the factors affecting health.
- 18) Explain malnutrition.
- 19) Describe the various modes of transmission of diseases and their preventive measures.
- 20) Explain the scope and importance of Public Health.
- 21) Write on life style habits and major causes of life style diseases.
- 22) Explain Diet control for Cholesterol.

(4x4 = 10)

IV. Answer any Two of the following

- 23). Give an account on vector-borne diseases and their control measures.
- 24) Write an essay on personal hygiene.

(1x15= 15)

SREE NARAYANA COLLEGE, PUNALUR

Third Semester B.Sc. Degree Model Examination, November 2017

First Degree Programme in Zoology

Core Course II ZO1341-ANIMAL DIVERSITY I

Time: 2 Hours

Maximum Marks : 50

Instruction : Draw Diagrams wherever necessary.

I. Answer all questions. Each question carries 1 mark

1. Explain homonymy.
2. What are Malpighian tubules?
3. What is clitellum?
4. Explain trochophore larva.
5. What is a taxon?
6. Define red tide.
7. What is vermiwash?
8. Explain Pseudocoleom.
9. Define a carapace and petasma.
10. What is bladder worm?

(10x1=10 marks)

II. Answer any 5 questions. Each question carries 2 marks

11. What is bioluminescence? Name two Protists which exhibit this phenomenon.
12. Comment on African sleeping sickness.
13. Explain five kingdom classification.
14. Comment on the principles of nomenclature.
15. Write the special characteristics of *Heteronereis*.
16. Comment on the sexual dimorphism in *Ascaris*.
17. Which are the basic categories in classification?
18. Differentiate between protostomes and deuterostomes.

(5x2 = 10 marks)

III. Answer any 4 questions. Each question carries 4 marks

19. Explain the salient features of Arthropoda.
20. Describe briefly the External characters of *Penaeus*.
21. Write an account on the taxonomic aids in classification.
22. What is vermicomposting? Give a brief description of the process and its uses.
23. Explain the features and parasitic adaptations of *Hirudinaria*.
24. Give a brief description of the mode of infection and life cycle of *Entamoeba histolitica*.
25. With diagrams write an account on Cephalic appendages of Prawn.
26. Enumerate the general Characteristics of Phylum onychophora.
27. Distinguish between polyp and Medusa.
28. Write an account on sericulture.

(5x4= 20 marks)

IV. Answer any 1 questions. Each question carries 10 marks

29. Write an account of the life history, pathogenicity and preventive measures of *Plasmodium vivax*
30. Explain the features of Coelentrata. Give an account on polymorphism.
31. Give an account of the life history, pathogenicity and prophylactic measures of *Fasciola hepatica*.
32. With a neat labeled Diagram explain the nervous system of *Penaeus*. Add a brief note on sense organs.

(1x10 = 10 marks)

III. Answer the following questions. Each question pertains to a specific

- 1. Explain the different levels of integration.
- 2. Describe the role of the Federal Reserve in the economy.
- 3. What is the primary function of the Federal Reserve?
- 4. What is the secondary function of the Federal Reserve?
- 5. Explain the Federal Reserve's monetary policy.
- 6. Give a brief description of the Federal Reserve's structure.
- 7. What is the Federal Reserve's role in the financial system?
- 8. Explain the Federal Reserve's role in the international economy.
- 9. Describe the Federal Reserve's role in the development of the financial system.
- 10. What is the Federal Reserve's role in the development of the financial system?

IV. Answer the following questions. Each question pertains to a specific

- 1. What is the primary function of the Federal Reserve?
- 2. Explain the Federal Reserve's monetary policy.
- 3. Give a brief description of the Federal Reserve's structure.
- 4. What is the Federal Reserve's role in the financial system?



(Pages : 2)

D - 2627

Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, December 2017
First Degree Programme under CBCSS
ZOOLOGY
Core Course - VII
ZO 1542 : Immunology and Microbiology
(2015 Admission)

Time : 3 Hours

Max. Marks : 80

Instruction : Draw diagrams wherever necessary.

I. Answer the following questions (In **one** or **two** sentences. **One** mark each) :

- 1) Immune system
- 2) Allergens
- 3) Father of immunology
- 4) Phagocyte
- 5) Cardinal signs of inflammation
- 6) MAC
- 7) Prokaryotes
- 8) Peptidoglycan
- 9) Bacteriophage
- 10) Aflatoxin.

(10×1=10 Marks)

II. Answer **any eight** of the following. (**Not** to exceed **one** paragraph. **Each** carries **2** marks.)

- 11) Plasma cells
- 12) Thymus
- 13) Epitopes
- 14) Opsonization
- 15) Agglutination test

P.T.O.

D - 2627



- 16) Lymph nodes
- 17) DNA vaccine
- 18) Mycoplasma
- 19) AIDS
- 20) Cyanobacteria
- 21) GMOs
- 22) Plasmids.

(8×2=16 Marks)

III. Answer **any six** of the following. (**Not** to exceed **120** words. **Each** carries **4** marks).

- 23) Widal test
- 24) T-Lymphocytes : Types and Activation
- 25) MHC
- 26) Granulocytes
- 27) Complement system
- 28) Structure of a typical virus
- 29) Microbes in Agriculture
- 30) Plasmodium
- 31) Pathogenic microbes.

(6×4=24 Marks)

IV. Answer **any two** of the following (**Each** carries **15** marks).

- 32) Write an essay on immunoglobulins.
- 33) Give an account on immunization.
- 34) Describe the modern methods for the classification of Eubacteria.
- 35) Write an essay on symbiotic microbiota.

(2×15=30 Marks)



Reg. No. :

Name :

**Fifth Semester B.Sc. Degree Examination, November 2016
(First Degree Programme under CBCSS)**

ZOOLOGY

Core Course – VII

**ZO 1544 : Immunology and Microbiology
(2013 Admission Onwards)**

Time : 3 Hours

Max. Marks : 80

I. Answer the following questions (in **one** or **two** sentences **each** – **one** mark **each**).

- 1) Hypersensitivity.
- 2) Secondary immune response.
- 3) Epitopes.
- 4) Vaccination.
- 5) NK cells.
- 6) Viroid.
- 7) Mycoplasma.
- 8) Plasmodium.
- 9) Exotoxin.
- 10) Poliomyelitis.

(10×1=10 Marks)

II. Answer **any eight** of the following (**not** to exceed **one** paragraph. **Each** carries **two** marks).

- 11) Fungal diseases.
- 12) *Bacillus thuringiensis*.
- 13) Archaea.
- 14) Structure of Lambda phage.