



Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, October 2015
First Degree Programme under CBCSS
ZOOLOGY
Core Course – VII
ZO 1544 : Immunology and Microbiology
(2013 Admission)

Time : 3 Hours

Max. Marks : 80

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

- ✓ 1) Inflammation
- 2) Primary immune response
- 3) Haptens (in complete antigens) = 37
- 4) Vaccine
- 5) Transplant
- 6) Prions
- ✓ 7) Prokaryote
- 8) Vibrio
- 9) Endotoxin (2011)
- ✓ 10) Hepatitis. (10×1=10 Marks)

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

- 11) Human microbiota
- 12) Candidiasis 227
- 13) Cyanobacteria
- ✓ 14) Plasmodium
- ✓ 15) AIDS
- 16) Immunological tolerance 57



- 17) Humoral immunity
- 18) Hypersensitivity
- 19) Antigenic determinants
- 20) Major features of class II MHC molecules
- 21) Ornithosis
- 22) Immunological memory.

(8×2=16 Marks)

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

- 23) Briefly outline four non-immune, non-specific defenses against infection.
- 24) With suitable examples outline the features of primary immune deficiency disorders.
- 25) Define transplantation immunity. Explain the mechanism and the factors affecting graft survival.
- 26) Explain the role of neutrophils, eosinophil, basophils and mast cells in immune system.
- 27) Antigen – antibody reactions.
- 28) Beneficial microbes.
- 29) Structure of a typical Bacteriophage.
- 30) Non-photosynthetic bacteria.
- 31) Explain the cause, symptoms and treatment of any two viral diseases.

(6×4=24 Marks)

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

- 32) Write an essay on various types of immune responses exhibited by humans.
- 33) With suitable diagram, explain the structure of a typical antibody and various classes of antibody. Add a note on the mechanism of antibody diversity.
- 34) Give a detailed account on classification of bacteria based on various criteria.
- 35) Critically evaluate the role of microbes in biotechnology.

(2×15=30 Marks)

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SREE NARAYANA COLLEGE, PUNALUR

FIFTH SEMESTER B.Sc. DEGREE MODEL EXAMINATION, OCTOBER 2016

FDP IN ZOOLOGY : ZO 1544- IMMUNOLOGY & MICROBIOLOGY

TIME: 2 HOURS

MAXIMUM MARKS: 50

Instructions: Draw Diagrams wherever necessary.

- I. Answer all questions** (Each question carries 1 Mark)
1. Who discovered ABO blood group system.
 2. What are endotoxins?
 3. What are epitopes ?
 4. Who is regarded as the father of Immunology?
 5. Name the immunoglobulins involved in agglutination.
 6. What is racial immunity ?
 7. What are microbial probiotics? (7 x 1= 7)
- II. Answer any six questions** (Each question carries 2 Mark)
8. Differentiate between active immunity & passive immunity.
 9. What are mitogens & mention its use in immunology.
 10. What are Heptans?
 11. Write short notes on Immunosuppressive drugs.
 12. Write short notes on mast cells.
 13. Write short notes on Delayed hypersensitivity.
 14. What are memory cells
 15. Differentiate between acute and chronic inflammation.
 16. What is autoimmunity? Mention any two autoimmune diseases. (6 x 2= 12)
- III. Answer any four questions** (Each question carries 4 Mark)
17. Antigen – antibody reactions.
 18. Explain the role of Neutrophil, eosinophil, basophils in immune system.
 19. Give an account on Immunoglobulins.
 20. Give an account on Major Histocompatibility complex.
 21. Give an account on various types of acquired immunity.
 22. Give an account on antigen processing and presentation. (4 x 4= 16)
- IV. Answer any one**
23. Give an account on organs and tissue transplantation.
 24. Write an essay on organs and tissues of the immune system with suitable example. (15 x 1= 15)

S.N. COLLEGE PUNALUR
FDP in Zoology. Test Paper. I, October 2015
ZOOLOGY CORE COURSE
COURSE CODE-ZO1544 IMMUNOLOGY & MICROBIOLOGY

Time. 2 hrs

Maximum Marks: 50

Draw diagrams where ever necessary

I. Answer all questions

1. regarded as the Father of Immunology.
2. Who discovered ABO blood group system..
3. Which is the source for specific Igs for Hepatitis B.
4. What is species immunity.
5. What are Epitopes ?
6. Why corneal grafts constitute some of the best successful grafts.
7. Which immunoglobulin is present in Colostrum? (1 x 7 = 7)

II. Answer any six of the following

8. Differentiate between conformational determinants and Linear determinants.
9. Write short note on conjugated vaccine.
10. Write short note on Specific Immunoglobulins
11. What is Allograft.
12. Write short note on Immunosuppressive Drugs
13. Write short note on mast cells.
14. What are memory cells.
15. Write short note on complement system.
16. Differentiate between type I Hypersensitivity & type IV Hypersensitivity. (2 x 6 = 12)

III. Answer any four of the following.

17. Give an account of classes of Immunoglobulins.
18. Write short note on components of Complement.
19. Write short note on Major Histocompatibility complex
20. Give an account on Mucosa-associated lymphocytes lymphoid Tissues.
21. Give an account of WBCs and their distinct features.
22. Discuss the role of Thymus in immunity (4x 4 =16)

IV. Answer any one of the following

23. Write an essay on AIDS- History, cause, symptoms and remedial measures.
24. Give an account of organs and tissues of immune system (15 x 1=15)



Reg. No. : 25013132021.....

Name : ...*Alene Saal*.....

Sixth Semester B.Sc. Degree Examination, April 2016
First Degree Programme under CBCSS
Elective Course
ZO 1661.1 : ECONOMIC ZOOLOGY – VERMICULTURE AND
APICULTURE
(2013 Admission)

Time : 3 Hours

Max. Marks : 80

Instruction : Draw diagrams **only** if specified in the question.

SECTION – A

Answer **all** questions in a word or in **one** to **two** sentences. **Each** question carries **(10×1=10 Marks)**
one mark.

1. Acarine disease.
2. Honey flow period.
3. Smoker.
4. Vermicast.
5. *Eudrillus eugeniae*.
6. Geophagous.
7. European bee.
8. Nuptial flight.
9. Swarming.
10. Bees wax.



SECTION – B

Answer **any eight** questions. **Each** question carries **two** marks. Answer **not** to exceed **one** paragraph. **(8×2 = 16 Marks)**

- ✓ 11. Differentiate epigeic and anecic with suitable example.
- ✓ 12. What is vermi-remediation ?
- ✓ 13. Describe caste system in honey bee.
14. Write notes on bee pastures.
- ✓ 15. Mention nutrient profile of honey.
16. Explain characters of an earthworm cocoon.
17. Describe physical effects of earthworm on soils.
18. Mention environmental requirements for vermiculture.
19. Criteria for site selection of vermicomposting unit.
- ✓ 20. Mention salient features of a worker bee.
- ✓ 21. Describe complete metamorphosis in honey bee.
- ✓ 22. What is comb-foundation ? Mention its use.

SECTION – C

Answer **any six** questions. **Each** question carries **four** marks. Answer **not** to exceed **120** words. **(6×4 = 24 Marks)**

23. Mention steps involved in acquiring bees for culture.
24. Write steps involved in the harvest of vermicompost.
25. Describe extraction of honey from comb and processing.
- ✓ 26. Write notes on management and maintenance of an apiary.
27. Discuss organization of bee colony.



28. Explain physical, chemical and biological parameter of vermicast.
29. Discuss feasibility of maintaining a vermicomposting plant in the college premises.
30. Explain social life and adaptations of honey bees.
31. Give a brief account on scope of vermiculture.

SECTION – D

Answer **any two** questions. **Each** question carries **fifteen** marks. Answer as long essay type. **(2x15 = 30 Marks)**

32. Give a detailed account on raw materials, environmental pre-requisites and management practices necessary for vermiculture.
 33. Write an essay on economic use of vermiculture.
 34. Give a detailed account on important diseases and causes of diseases in honey bees.
 35. Write an essay on bee keeping equipments.
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(Pages : 2)

B – 1455

Reg. No. : ..13314.133012.....

Name : Abhijit Saigal.....

Fifth Semester B.A./B.Sc./B.Com. Degree Examination, November 2016
First Degree Programme Under CBCSS
ZOOLOGY
Open Course
ZO1551.1 : Public Health and Hygiene
(2013 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

I. Answer **all** questions (in **one** or **two** sentences. **One** mark each).

- 1) Chikunguniya.
- 2) Obesity.
- 3) Why O blood group is universal donor ?
- 4) Syphilis.
- 5) What are food additives ?
- 6) Killed vaccine.
- 7) WHO's definition of mental health.
- 8) Vaccination.
- 9) Oral hygiene.
- 10) Substance abuse.

(10×1=10 Marks)

II. Answer **any 8** of the following. (**Not** to exceed **one** paragraph. **Each** carries **two** marks).

- 11) Discuss the overuse of pesticides.
- 12) Obsessive compulsive disorders.
- 13) Passive smoking.
- 14) Childhood mental disorders.

P.T.O.



- 15) Hyper tension.
- 16) Blood transfusion.
- 17) Geriatric care.
- 18) Effect of TV and phone on health.
- 19) Ill effects of alcoholism.
- 20) Broiler chicken and health hazard.
- 21) Fortification of food.
- 22) Vitamins.

(8×2=16 Marks)

III. Answer **any 6** of the following (**Not** to exceed **120** words, **each** carries **4** marks).

- 23) Briefly describe food adulteration and its harmful effects.
- 24) Describe various blood groups.
- 25) Briefly discuss mosquito control.
- 26) Discuss the importance of lactation.
- 27) What is the importance of yoga in stress management ?
- 28) Describe various contraceptives in population control.
- 29) Drug abuse and its social effects.
- 30) Discuss the fast food cultures and its adverse effect on health.
- 31) Comment on social hygiene and clean living movements.

(6×4=24 Marks)

IV. Answer **any 2** of the following (**each** carries **15** marks).

- 32) What are lifestyle diseases ? Discuss the importance of physical exercise in maintaining physical fitness.
- 33) Write an essay on water borne diseases.
- 34) Write brief notes on sexually transmitted diseases.
- 35) What is balanced diet ? Name the constituents of the diet. Formulate diet for various age groups.

(2×15=30 Marks)

(Pages : 3)

H-2117

Reg. No. : 25019133002

Name : Anjali

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Zoology

Core Course I

ZO 1141 : ANIMAL DIVERSITY – I

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

I. Answer **all** questions in one or two sentences. (Each question carries **1** mark).

1. Hirudin
2. Trinomial nomenclature
3. Protostomia
4. Pseudocoelomata
5. Radiata
- ~~6.~~ Endoplasm
7. Saprozoic nutrition
- ~~8.~~ Food vacuole
9. Digenetic parasite
10. Endoskeleton

(10 × 1 = 10 Marks)

P.T.O.

II. Answer any **eight** of the following. (Each questions carries **2** marks)

~~11.~~ Define metamorphosis.

~~12.~~ What is gastric mill?

~~13.~~ What is epipodite?

14. Name the largest pearl oyster.

15. Dentalium.

16. Nacreous layer

~~17.~~ What is tubefeet?

18. What is scaphognathite?

~~19.~~ Hermaphrodite

~~20.~~ Chaonocytes

~~21.~~ Amphiblastula

~~22.~~ Osculum

(8 × 2 = 16 Marks)

III. Answer any **six** of the following. (Each question carries **4** marks).

23. Explain Conjugation.

~~24.~~ Give a brief account of locomotion in *Paramecium*.

~~25.~~ Describe the larval stages of *Penaeus*.

26. Give a note on the affinities of Hemichordates with *Annelida*.

27. Comment on Bipinnaria larva.

28. Give the characters of *Chiton*.

29. Describe the structure of green glands in *Penaeus*.

30. Which are different types of Pearl?

31. Describe the canal system in Sponges.

(6 × 4 = 24 Marks)

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

32. Enumerate the economic importance of Protists.

33. Citing suitable examples discuss the outline classification of Platyhelminthes.

34. Describe the water vascular system in Echinodermata.

35. Explain the structure and mechanism of respiration in *Penaeus*.

(2 × 15 = 30 Marks)



Reg. No. : ...25014133017..

Name : ...Anusha.....

First Semester B.Sc. Degree Examination, December 2016
First Degree Programme under CBCSS
ZOOLOGY
Core Course – I
ZO 1141 : Animal Diversity – I
(2014 Admission)

Time: 3 Hours

Max. Marks: 80

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

- 1) Syngamy
- 2) Red tides
- 3) Protostomia
- 4) Spongilla
- 5) Cormidium
- 6) Cysticercus
- 7) Magna
- 8) Lymphatic filariasis
- 9) Heteroneries ✓
- 10) Pedicellariae.

(10×1=10 Marks)

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

- 1) General characters of Crinoidea ✓
- 2) Salient features of Phylum Onychophora
- 3) Hirudinaria ✓
- 4) Pin worm infection in man
- 5) Polymorphism in physalia
- 6) Salient features of Calcispongia

P.T.O.



- 17) Exoerythrocytic cycle of Plasmodium
- 18) Life cycle of *Trypanosoma gambiense*
- 19) Bilateral symmetry
- 20) Madrepora ✓
- 21) Green gland in *Penaeus* ✓
- 22) General characters of Asterozoa. ✓

(8×2=16 Marks)

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

- 23) Explain Whittaker's five kingdom classification.
- 24) Different types of coral reefs.
- 25) Salient features of Polychaetes with suitable examples. ✓
- 26) Larval forms of *Fasciola*.
- 27) Explain general characters of Phylum Nematode with suitable examples.
- 28) Larval forms of *Penaeus* sp.
- 29) Important silkworms used in sericulture.
- 30) General characters of Scorpion.
- 31) External morphology of *Megascolex*.

(6×4=24 Marks)

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

- 32) Write an essay on parasitic protozoans.
- 33) Explain the structure of appendages in prawn. ✓
- 34) Explain the morphology, life history and pathogenicity of *Ascaris*. ✓
- 35) Explain important steps involved in pearl culture. ✓

(2×15=30 Marks)

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Reg. No. :

Name :

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Zoology

Core Course I

ZO 1141 – ANIMAL DIVERSITY – I

(2015 Admission – 2018 Admission)

Max. Marks : 80

Time : 3 Hours

I. Answer all the questions (in 1 or 2 sentences). Each question carries 1 mark :

1. Tube Feet.
2. Invertebrate, that exhibits jet propulsion locomotion.
3. Mosquito vector that causes Malaria.
4. Holothuria.
5. An example for a Stored food grain pest.
6. Specialized Tissue, between body wall and alimentary canal in Leeches.
7. Molluscan, which has segmentation and is a living fossil.
8. Lepisma.

9. Organism, which exhibit retrogressive metamorphosis.
10. Human pin worm.

(10 × 1 = 10 Marks)

II. Answer **any eight** questions (not to exceed 1 paragraph). Each question carries 2 mark :

11. Strobilization.
12. Radula.
13. Distinguish Byssus threads from captacula.
14. Pearl formation.
15. Autotomy with an example.
16. Moths from Butterflies.
17. Annelidans.
18. Shell structures of Chiton and Pila.
19. Diagnostic features of platyhelminthes.
20. Rhopalia in *Aurelia*.
21. Polymorphism with an example.
22. Water vascular system.

(8 × 2 = 16 Marks)

III. Answer **any six** questions (not to exceed **120** words). Each question carries **4** marks :

23. Salient features of phylum Mollusca.
24. Classification of Protista upto Phylum level.
25. Hermit Crabs.
26. Cycle of Ross and Cycle of Golgi in *Plasmodium*.
27. Types of Coral reefs.
28. Affinities of *Peripatus* with Annelida and Arthropoda.
29. Parasitic adaptations in Tape worm.
30. Conjugation in *Paramecium*.
31. Pests of paddy.

(6 × 4 = 24 Marks)

IV. Answer **any two** questions (as a short essay). Each question carries **15** marks :

32. Write an essay on the formation of pearls, its culture and management.
33. Describe polymorphism in coelenterates, with emphasis to *Obelia*.
34. With suitable diagrams, explain the life cycle of *Penaeus*.
35. Explain Taxonomic hierarchy, with suitable examples.

(2 × 15 = 30 Marks)



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.

(10x1=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



- 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.



- 15) DNA vaccination.
- 16) Immunological suppression.
- 17) Cell mediated immunity.
- 18) IgE.
- 19) Cytokines.
- 20) Diphtheria.
- 21) Rhizobium.
- 22) Severe Combined Immune Deficiency (SCID).

(8x2=16 Marks)

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

- 23) Explain clonal selection hypothesis.
- 24) Organs and tissues involved in immune system.
- 25) Define autoimmunity. Explain the mechanism involved. Add a note on autoimmune diseases.
- 26) Active immunization.
- 27) Structure and functions of MHC.
- 28) Give an outline of classification of bacteria based on Bergey' Manual of systematic Bacteriology.
- 29) Structure of a typical bacterium.
- 30) Chemo-lithotrophic bacteria.
- 31) Normal human micro biota of various organs.

(6x4=24 Marks)

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

- 32) With suitable example, briefly outline the features of major immune deficiency disorders.
- 33) Give detailed account on the formation, development and maturation of various types of cells involved in immune system.
- 34) Write an essay on microbes of agricultural importance.
- 35) Explain the cause, symptoms and treatment of any three bacterial diseases.

(2x15=30 Marks)