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2M4A22562 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester M.Sc Degree Examination, April 2022

MZL4C09 – Immunology & Cytogenetics

(2019 Admission onwards)

Time: 3 hours Max. Weightage : 30

I. Answer any eight of the following: - (Weightage –1)

1. What are adjuvants and its importance in immune system?
2. What are Cytokines and it significance.
3. What are Interferon's and its functions?
4. Explain signal transduction with suitable example.
5. Name three features of secondary immune response that distinguish it from a primary immune response.
6. Explain the difference between a monocyte and a macrophage.
7. Briefly describe CD3 complex.
8. Explain the phenomenon of cross reactivity with suitable example.
9. Comment on clonal selection.
10. Describe the role of T cell receptors in immunological memory.
11. Explain the role of Rec A protein in genetic recombination.
12. What is a recombinant vector vaccine? Cite an example.

(8 x 1= 8 weightage)

II. Answer any four of the following: - (Weightage – 3)

13. What are monoclonal antibodies? Explain hybridoma technology in brief account.
14. What are CDR regions of an antibody molecule? Write its location and functions.
15. Illustrate the fine structure of Immunoglobulin G and its function.
16. Explain the regulation of apoptosis.
17. Write a brief account on complement regulation.
18. Describe the mode of presentation in non-peptide bacterial antigen.
19. Write a note on ELISA. Briefly list out its significance.

(4 x3 = 12 weightage)

III. Answer any two of the following: - (Weightage – 5)

20. Compare and contrast the four types of antigens binding molecules used by the immune system-antibodies, T cell receptors, class I MHC molecules and class II MHC molecules in terms of following characteristics:

    a. Specificity for antigen.

    b. Cellular expression.

    c. Types of antigen recognized.

21. Explain the steps involved in the generation of antibody diversity.

22. Give an account on the organization of MHC genes.

23. Write an account on molecular mechanism involved in homologus recombination of DNA in eukaryotes.

(2 x 5 = 10 weightage)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester M.Sc Degree Examination, April 2022

MZL4E02(5) – Wild life Biology II – Wildlife Conservation

(2019 Admission onwards)

Time: 3 hours Max. Weightage : 30

I. Answer *eight of the following* questions.(Weightage-1)

1. What is compression hypothesis?
2. Differentiate national parks and sanctuaries.
3. Comment on Ex situ conservation
4. Briefly explain Nilgiri biosphere reserve.
5. Write notes on IBWL.
6. What is flagship species? Give an example.
7. Write a short note on effective population size.
8. Explain the role of tribals in wildlife conservation.
9. What is meant by inbreeding depression?
10. Write notes on the conservation and management of mangroves.
11. Comment on Earth summit.
12. Briefly explain the impacts of forest fire on wildlife.

(8x1=8 weightage)

II. Answer *any four of the following* questions. (Weightage-3)

13. Describe important bird sanctuaries of India.
14. Give an account on the Project Tiger.
15. Discuss the impacts of hydroelectric projects on wildlife.
16. Describe the causes of depletion of wildlife resources.
17. Explain IUCN criteria with reference to Red Data Book.
18. Discuss UN conferences on environmental issues.
19. What is ecotourism? Mention its role in sustainable development.

(4x3=12 weightage)

III. Answer *any two of the following* questions. (Weightage-5)

20. Write an essay on the importance of tourism in wildlife conservation.
21. Write an essay on fragmentation and isolation of habitats. Mention the significance of wildlife corridor.
22. Explain wildlife protection act-1972 with its latest amendments.
23. Give an account on man and wildlife conflict with special reference to Kerala. Add a note on its control and management.

(2x5=10 weightage)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester M.Sc Degree Examination, April 2022

MZL4E03(5) – Wild life Biology III – Wildlife Management

(2019 Admission onwards)

Time : 3 hours Max. Weightage : 30

I. Answer any eight of the following: - (Weightage – 1)

1. Environmental Impact Assessment (EIA).
2. Concept of herbivory and carnivory.
3. What are Zoonotic infections ?Mention examples.
4. Captive breeding.
5. Transect count.
6. Food selection and patterns of habitat utilization.
7. Remote sensing, GIS, Radar in wildlife research.
8. Peterson or Lincoln Index method.
9. Give an account on fire control and suppression procedures in India.
10. Moonlit Zoo
11. Pheasants of Himachal Pradesh.
12. Write notes on importance of radio telemetry in wildlife studies.

(8 x 1 =8 weightage)

II. Answer any four of the following:-

13. Basic consideration, layout and functions of modern Zoo.
14. Determination of Age and sex in animals and birds.
15. Pedigree analysis and karyotyping techniques in Wild life management.
16. Management of Indian Cranes.
17. Conventions on wetlands. Mention Ramsar sites in India.
18. Explain the Impacts of pollution on forest and wildlife.
19. Foraging behavior and optimal foraging theory.

(4 x 3 = 12 Weightage)

III. Answer any two questions.

20. Write an essay on wildlife population estimation techniques.
21. Discuss various modern methods of wildlife study.
22. Wetland management and impact of pollution on wetland birds.
23. Write an essay on health care and Disease management of wildlife.

(2 x 5 = 10 Weightage)