

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Second Semester M.Sc Zoology Degree Examination, March 2018  
MZOL2B05 – Ecology & Ethology  
(2017 Admission onwards)

Max. Time: 3 hours

Max. Weight

**I Answer all questions**

1. Briefly explain biological dispersal and its significance.
2. Comment on MAB programme.
3. Comment on 'life table' and its importance.
4. Distinguish between fundamental and realized niches.
5. Compare Shannon diversity index and Simpson's diversity index.
6. Explain Fixed Action Pattern.
7. Comment on Species Area Relationship.
8. Explain logistic growth curve.
9. Explain 'Maximum natality' and 'Ecological natality'.
10. Explain proximate factors.
11. Comment on the significance of food chain.
12. Explain carbon footprint.
13. What is 'altruism'?
14. What is conservation genetics?

(14 x 1 =14 weights)

**II Answer any seven questions**

15. Briefly describe 'instinctive behavior'.
16. Write notes on cultural transmission of behavior.
17. Discuss habitat conservation with special reference to Western Ghats.
18. Briefly explain the mechanism of 'ecological succession'.
19. Discuss ecological modeling and validation.
20. Briefly describe any five characteristics of population.
21. Discuss 'circadian rhythm'.
22. Discuss *ex situ* conservation strategy and its significance.
23. Analyze the importance of wetlands in conservation.
24. Discuss the concept of 'resource partitioning'.

(7 x 2 =14 weights)

### III Answer any two questions

25. Give an account of the social organization of Primates.
26. Describe the phenomenon of 'motivation' as revealed by studies on guppies.
27. Describe various types of forests in the India indicating geographical, floral and faunal characteristics.
28. Discuss different types of species diversity measures. Add note on its merits and demerits.

(2 x 4 = 8 weightage)

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Second Semester M.Sc Zoology Degree Examination, March 2018  
**MZOL2B06 – Developmental Biology & Endocrinology**  
(2017 Admission onwards)

Max. Time: 3 hours

Max. Weightage

**I. Answer all fourteen questions (Weightage-1)**

1. Commitment
2. Embryonic field
3. Primary embryonic induction
4. Cadherins
5. Bicoid gradient
6. Paracrine factors
7. Dosage compensation
8. Epimorphic regeneration
9. Polyphenism
10. Enorphins
11. Parathormones
12. Receptor number
13. Neurotransmitters
14. Physiological role of estrogen

**(14 x 1=14 weightage)****II. Answer any seven questions (Weightage-2)**

15. Explain amphibian metamorphosis
16. Describe reversibility of patterns of gene activity.
17. What is Hox code hypothesis?
18. Describe anterior-posterior patterning in *Drosophila*.
19. Explain the process of cleavage and blastula formation with example.
20. Give an account on the role of RTK pathway and cell death pathway in development.
21. Describe the hormonal control of Pregnancy.
22. Comment on physiological role of hormones.
23. Explain the endocrine control of testicular function.
24. Describe receptor signal transduction

**(7 x 2=14 weightage)**

**III. Answer any two questions (Weightage-4)**

25. Write an essay on cellular interactions during development.
26. Explain different types of cleavage and blastula.
27. Write an essay on regeneration.
28. Describe the physiological role, mechanism of action and pathophysiology of Neurohormones

**(2 x 4=8 weightage)**