24

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

                                                     Name: ....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Second Semester M.Sc Degree Examination, March/April 2020
MZL2C06 – Developmental Biology & Endocrinology
(2019 Admission onwards)

me: 3 hours   Max. Weightage : 30

Answer any eight questions   (Weightage – 1)

Distinguish between autonomous and conditional specification.

Comment on environmental oestrogens.

What is epithelial mesenchymal interaction? Cite example.

Write on realisator genes?

Comment on morphogenetic gradients.

What is embryonic field?

Give short note on oxidative damage.

Write a brief note on eicosanoids.

Comment of structure of parathyroid gland.

0. What are endorphins?

1. Comment on the half-life of hormones.

2. Comment on gases in neural transmission.

                                                    (8 x 1 = 8 weightage)

Answer any four questions (Weightage – 3)

3. Explain the role of alcohol and retinoic acid as teratogenic agents.

4. Write on the cell surface molecules in sperm-egg recognition in animals.

5. Write short note on limb development in chick

6. Explain the functions of cadherin proteins.

7. Write on the types of polyphenisms.

8. Describe the endocrine control of testicular function.

9. Write notes on second messengers of hormone action.

                                                    (4 x 3 = 12 weightage)

III. Answer any two questions (Weightage – 5)

20. Give an account onthe anterior posterior patterning in *Drosophila*.

21. Write an essay on the strategies for differential gene expression in development.

22. Describe the structure, physiological functions and control of secretions of the hormones from hypophysis.

23. Write an essay on the chemistry, physiological roles and hormonal regulation of hormone in female reproductive physiology.

(2 x 5 = 10weighta

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester M.Sc Degree Examination, March/April 2020

MZL2C05 – Ecology & Ethology

(2019 Admission onwards)

Time: 3 hours   Max. Weightage : 30

Answer *any eight* questions   (Weightage - 1)

1. Sere
2. Trophic levels
3. Alpha diversity
4. Ecotone
5. Carbon budgeting
6. Differentiate ecosystem restoration and rehabilitation
7. Applications of molecular ecology
8. Character displacement
9. Motivation
10. Reflex action
11. Differentiate keystone species and dominant species
12. Mutualistic cheating   **(8 x 1 = 8 weightage)**

Answer *any four* questions (Weightage - 3)

13. Write a short note on seasonality of Indian subcontinent
14. With examples, write a short note on *r* selected and *k* selected species
15. What are the tenets of MacArthur- Wilson theory of Island biogeography?
16. Write a brief account on environmental laws
17. What are statistical and a non-statistical ecological models?
18. Write a note on the mechanisms of ecological succession
19. Explain the concept of altruism and kin selection. Write a short note on the genetics of altruism in social insects

       (4 x 3 = 12weightage)

I. Answer *any two* questions (Weightage - 5)

20. Write an essay on adaptiveness of behaviour
21. Write an essay on Navigation and Migration in birds.
22. Elaborate on any five major ecosystem types of India
23. What are different biodiversity management approaches? Write on the pros and cons of the same

       (2 x 5 = 10weightage)

26

Time: 3 hours   Max. Weightage : 30

Answer any eight questions   (Weightage – 1)

Write notes on Okazaki fragments.

Explain non-sense mutation.

What is Shine Delgarno sequence?

What are the special features of f-met-tRNA?

Write notes on any two inhibitors of DNA replication.

Distinguish between TATA and CAAT.

What is degeneracy of genetic code? Cite example.

What is the role of Nucleolus in Ribosome biogenesis?

What is the role of σ-factor in transcription?

0.   Comment on induction of Lac Operon.

1.   Differentiate gene family and gene clusters?

2.   Comment on Cot value.

                                              (8 x 1 = 8 weightage)

I. Answer any four questions (Weightage – 3)

3.   Explain Evolutionary clock and its application.

4.   Describe different types of transposons.

5.   Write short note on RNAeditting.

6.   Explain different methods of genetic transfer in Bacteria.

7.   Explain special features of human mitochondrial genome.

8.   Describe the process of splicing.

9.   Write notes on D-loop and θ-model DNA replications.

                                              (4 x 3 = 12 weightage)

III. Answer any two questions (Weightage – 5)

20. Explain in detail about transcription in Eukaryotes.

21. Write an essay on DNA repair mechanisms.

22. Describe the mechanism of ribosome biosynthesis.

23. Write an essay on special features of Eukaryotic genome.

$(2 \times 5 = 10$ weight