

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
 Second Semester B.Sc Botany Degree Examination, March/April 2020  
**BZL2C02 - Economic Zoology**  
 (2019 Admission onwards)

Time: 2 hours

Max. Marks : 60

**I. Short answer questions. Each question carries 2 marks.**

1. What is Isinglass? Explain its uses?
2. Differentiate between Raft culture and Pole culture.
3. What is Royal jelly? Mention its importance.
4. What is autoinfection? Give an example.
5. Briefly explain aquaculture and its purpose.
6. Differentiate between parasite and parasitoid.
7. Explain Liver schizogony.
8. What is hexacanth embryo?
9. Why *Leptocorisaacuta* is known as sporadic pest?
10. What is a fumigant? Give two examples?
11. How the attack by *Spodoptera mauritica* can be controlled?
12. Explain traditional prawn culture in rice fields.

**(Ceiling: 20 marks)****II. Paragraph questions. Each question carries 5 marks.**

13. Explain host-parasite specificity.
14. What is induced breeding? Explain its procedure.
15. Give an account of IPM. Explain its advantages.
16. Explain pathogenic effect of *Wuchereria bancrofti*.
17. Brief on economic importance of apiculture.
18. Explain the culture technique practiced in the production of pearl.
19. Explain the damage caused by *Rhynchophorus ferrugineus*. What are its control measures?

**(Ceiling: 30 marks)****III. Essay questions. Answer any one question.**

20. Write an essay on pest outbreak.
21. What is eyestalk ablation? Describe the various methods practiced in prawn culture.

**(1 x 10 = 10 marks)**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
 Second Semester B.Sc Zoology Degree Examination, March/April 2020  
**BZL2B02 - Animal Diversity Nonchordata II**  
 (2019 Admission onwards)

Time: 2 hours

Max. Marks : 60

**Section A**

**I. Short answer questions. Each question carries 2 marks.**

1. Comment on trilobites.
2. Differentiate prostomium and peristomium.
3. Write notes on *Neopilina*.
4. What is evisceration?
5. Comment on heteronereis.
6. What is petasma. Mention its function.
7. Discuss the salient features of Phylum Ectoprocta.
8. Write down the affinities of *Balanoglossus*.
9. Comment on *Holothuria*.
10. What is a statocyst? Mention its function.
11. Describe the structure of parapodia with diagram.
12. Write down the peculiarities of *Papilio buddha*.

(Ceiling : 20 marks)

**Section B**

**II. Paragraph questions. Each question carries 5 marks**

13. Write an account on affinities of *Peripatus*.
14. Describe the digestive system of *Neanthes*.
15. Explain the salient features of class Asteroidea with a suitable example.
16. Write down the cephalic and thoracic appendages of *Penaeus*.
17. Write down the blood feeding adaptations of *Hirudinaria*.
18. Describe the respiratory mechanisms of *Pila globosa*.
19. Write down the salient features of Phylum *Echinodermata*.

(Ceiling : 30 marks)

**Section C**

**III. Essay questions. Answer any one question.**

20. Describe the structure and working of compound eye of *Penaeus* with a suitable diagram.
21. Describe in detail the water vascular system of *Asterias*.

(1 x 10 = 10 marks)

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(Pages : 2)

Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Second Semester B.Sc Degree Examination, March/April 2020  
**BZL2C03 –Human Physiology - II**  
(2019 Admission onwards)

Time: 2 hours

Max. Marks : 60

**SECTION A**

**Each question carries 2 marks. Answer in 2 or 3 sentences.  
There shall be a ceiling of 20 marks in this section**

Why REM sleep is also called paradoxical sleep?

What is meant by saltatory propagation of nerve impulse?

Write a note on global aphasia.

Mention the more important functions of medulla oblongata.

Write a brief note on the arbor vitae of cerebellum.

What happens in the case of a damage to or loss of Broca's area?

Name four major clinical syndromes that can result from damage to basal ganglia.

What is a reflex arc? What are its components?

Draw and label the anatomical divisions of the cerebellum.

What parts of the brain form the basal ganglia?

Mention the location and function of the olfactory lobes.

What is an electroencephalogram?

( Ceiling 20 marks)

## **SECTION B**

**Answer any six questions. Each question carries 5 marks.**

**Answer in a paragraph or about half page.**

**There shall be a ceiling of 30 marks in this section.**

13. Explain the role of Raphe nuclei in causing sleep.
14. Elucidate the formation, pathway of flow and site of absorption of the cerebrospinal fluid.
15. Explain the role of vestibulocerebellum in controlling equilibrium and postural movements
16. Highlight the advantages of MRI technique and also note disadvantages if any.
17. What is reflex action? Explain the phenomenon of crossed extensor reflex and its significance.
18. Describe the pathways of the Putamen circuit through the basal ganglia.
19. Explain the role of calcium ions in the transmission of a nerve impulse.

**( Ceiling 30 )**

## **SECTION C**

**Answer any one question. Each question carries 10 marks.**

**Essay type question.**

20. Explain the functions of the sub areas of Parieto-occipitotemporal association area.
21. With the help of a labeled diagram explain the anatomy of a typical motor neuron.

**( 1 x 10= 10 )**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Second Semester B.Sc Degree Examination, March/April 2020  
**BAS2C02 – Life Contingencies**  
(2019 Admission onwards)

Time: 2 hours

Max. Marks : 60

**PART –A(Short Answers)**  
(Each question carries *two* marks. Maximum 20 Marks)

1. Define meaning of  $tP_x$ .
2. Using the values from ELT15 (Males) calculate the values of  $2P_3$  and  $4q_1$ .
3. Define select mortality.
4. State analytical laws of mortality.
5. Explain n-year endowment assurance contract.
6. Evaluate  $A_{40}$  and  $\bar{A}_{40}$  based on AM92 Ultimate mortality at 4% *pa* interest.
7. Define whole life annuity payable in arrears
8. Derive variance of present value random variable of an immediate annuity.
9. Calculate the values of  $A'_{40:\overline{25}|}$  and  $A_{30:20}$  using AM92 mortality and 4% *pa* interest.
10. Calculate the values of  $\ddot{a}_{60:\overline{10}|}$  and  $\bar{a}_{60:\overline{10}|}$  using AM92 mortality and 6% *pa* interest.
11. Define joint life status.
12. Describe  $t^P_{xy}$  and  $t^q_{xy}$

**PART –B**  
(Each question carries *five* marks. Maximum 30 Marks)

13. A population is subject to a constant force of mortality of 0.015 *p a*. Calculate the probability that a life aged exactly 20 dies before age 21.25.
14. Derive the commutation function for the n-year term and n-year endowment assurance contracts
15. Explain critical illness assurance contracts.
16. Define commutation function  $D_x$  and Calculate  $a_{30}$ ,  $10|a_{30}$ , and  $10|a_{70}$ , based on AM92 mortality and 4% *pa* interest.
17. Assuming that both lives are independently subject to AM92 mortality calculate the following:
  - a)  ${}_3P_{45:41}$
  - b)  $q_{66:65}$
  - c)  $\mu_{38:30}$

18. Explain contingent events

19. Calculate using AM92 mortality

a)  ${}_5q_{40:40}^1$

b)  ${}_5q_{40:40}^2$

**PART -C**

**Answer any one question and carries 10 Marks.**

20. Given that  $p_{80} = 0.988$ , calculate  ${}_{0.5}p_{80}$  assuming:

a) A uniform distribution of deaths between integer ages

b) A constant force of mortality between integer ages.

21. Describe whole life assurance contract. Derive its mean and variance.