

**Q.P. Code 56941**

**M.Sc., (Previous) Degree Examinations**

**September/October 2015**

*(Directorate of Distance Education)*

**ZOOLOGY**

**DPA 510: Paper I - Animal Forms and Functions and Ecobiology**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

***Instructions to the Candidates:***

1. Answer any TWO questions from Section A, TWO from Section B, and Section C is compulsory.
2. Illustrate the answers wherever necessary.
3. Question No.10 in Section D is applicable to only to freshers.

**SECTION –A**

**2X15 =30**

1. Describe the organization of coelom with suitable examples.
2. Write an essay on the comparative account of urinogenital system in vertebrates
3. Give a detailed account on the origin of chordate.
4. Describe the evolution of aortic arches in vertebrates.

**SECTION –B**

**2X15 =30**

5. Give an account of intra specific and inter specific competition.
6. Write in detail an account on biomass and productivity with a note on factors affecting productivity.
7. Explain the influence of density dependent and density independent factors on populations.
8. Discuss various methods on contraceptives

**SECTION –C**

**3X5 =15**

**9. Write short notes on any THREE of the following :**

- a) Hydrostatic movement in Annelida
- b) Types of communities
- c) Male and Female sterility
- d) Ecological Pyramids
- e) Malpighian tubules

**SECTION –D**

10. Discuss the various factors affecting human mortalities in India.

**1X10 =10**

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**ZOOLOGY**

**DPA 520 : Paper – II : Physiology and Biological Chemistry**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

**Instructions to the Candidates:**

1. Answer any TWO questions from SECTION - A TWO from SECTION - B, and SECTION - C compulsory.
2. Illustrate the answers wherever necessary.
3. Question No. 10 in SECTION- D is applicable to only freshers.

**SECTION - A**

**2X15=30**

1. Explain the process of digestion of dietary carbohydrates and its regulation.
2. Describe the physiology of urine formation in mammals.
3. Explain the physiology of Cholinergic and Adrenergic Synapses.
4. Write an account on patterns and regulatory mechanisms of circulation.

**SECTION - B**

**2X15=30**

5. Write the properties of enzymes and add a note on their classification.
6. What are prostaglandins? Explain their role in lipid metabolism.
7. Explain various steps involved in Glycolysis cycle.
8. Explain urea cycle and transmethylation in protein metabolism.

**SECTION - C**

**Write short notes on any THREE of the following :**

**3X5=15**

9. Osmoregulation in terrestrial animals.
10. Transport of Oxygen.
11. Neurogenic heart
12. Normality and Molarity.
13. Reflex action
14. Chemical bonds

**SECTION - D**

**1X10=10**

15. Write an essay on thermoregulation in poikilotherms.

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**Q.P.Code No. 56943**

**M.Sc., (Previous) Degree Examinations**

**September/October 2015**

**Directorate of Distance Education**

**ZOOLOGY**

**DPA 530 : Paper – III : Parasitology and Animal Behaviour**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

*Instructions to the Candidates:*

- 1. Answer any TWO questions from SECTION - A TWO from SECTION – B, and SECTION – C compulsory.*
- 2. Illustrate the answers wherever necessary.*
- 3. Question No. 10 in SECTION- D is applicable to only freshers.*

**SECTION – A**

**2X15=30**

1. Discuss in detail the modes of entry of parasites and their effects.
2. Explain in detail on etiology of Trypanosoma.
3. Give a detailed account on cultural techniques of parasites
4. Give an account on the Parasitoidas with suitable examples.

**SECTION – B**

**2X15=30**

5. Explain instinctive behavior with suitable examples.
6. Write an essay on biological communication.
7. Discuss biological rhythms and their significance.
8. Explain social organization in primates.

**SECTION – C**

**3X5=15**

9. *Write short notes on any THREE of the following :*

- a) Echinococcus
- b) Ticks
- c) Female choice
- d) Polygenic inheritance
- e) Courtship Behaviour

**SECTION – D**

**1X10=10**

10. Give a detailed account on memory with suitable examples.

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**ZOOLOGY**

**DPA 540: Paper IV - Cytogenetics and Developmental Biology**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

***Instructions to the Candidates:***

1. Answer any TWO questions from Section A, TWO from Section B, and Section C is compulsory.
2. Illustrate the answers wherever necessary.
3. Question No.10 in Section D is applicable to only freshers.

**SECTION –A**

**2X15 =30**

1. Describe the ultrastructural organization of plasma membrane.
2. Explain the extranuclear inheritance with suitable examples.
3. Give an account of phases of cell cycle.
4. Write an account on Benzer's work on  $\gamma$  II locus in T-4 phages.

**SECTION –B**

**2X15 =30**

5. Explain the developmental patterns in Metazoans.
6. Discuss the male and female gametogenesis.
7. Explain antero-posterior axis formation in Drosophila embryo.
8. Write an account on the role of cytoplasm and nucleus in development with suitable examples.

**SECTION –C**

**3X15 =15**

**9. Write short notes on any THREE of the following :**

- a) Types of cleavage
- b) Microtubules
- c) Totipotency
- d) Teratogens
- e) Linkage maps

**SECTION –D**

10. Explain the molecular organization of eukaryotic genome.

**1X10 =10**

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