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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, March 2018
ZO6B10 T – Biochemistry
(2015 Admission onwards)

80

Time: 3 hours

Max. Marks: 80

Part A

Answer all questions. Each question carries 1 Mark.

1. What is chemiosmotic coupling?
2. Name any two reducing sugars.
3. What are the different types of DNA?
4. Mention the coenzyme role of NAD.
5. What is redox potential?
6. Name the final electron acceptor in ETC.
7. What is a peptide bond?
8. List the biological significance of pentose sugar.
9. What is competitive inhibition?
10. What is ribozyme?

(10 × 1 = 10 Marks)

Part B

Short answer questions. Answer any ten questions.

11. Give the structure of Glucose and Mannose.
12. What is decarboxylation?
13. What is meant by active site of an enzyme?
14. What is denaturation?
15. What are prostaglandins?
16. What is coenzyme? Give two examples.
17. What is the principle of Benedict's test?

18. Distinguish between glycogenesis and glycogenolysis.
19. Define isoelectric point.
20. What are simple and compound lipids?
21. Give an account on Agarose Gel Electrophoresis.
22. Comment on lecithins.

(10 × 2 = 20 Marks)

Part C

III. Short answer questions. Answer *any five* questions.

23. Explain glycolysis.
24. Explain molecular structure of tRNA.
25. Explain the structure of prostaglandin and mention any two physiological importances.
26. Describe Ninhydrin reaction and Biuret reaction.
27. Give the classification of carbohydrates with examples.
28. Describe structure of DNA.
29. Give a brief account on electrophoresis and its types.
30. Give an account on HMP shunt.

(5 × 6 = 30 Marks)

Part D

IV. Answer *any two* questions.

31. Briefly explain about different types of bonds seen in biological molecules. Add a note on its significances.
32. Give an account of β – oxidation of fatty acids.
33. Explain structure of protein with examples.
34. Explain IUB classification, naming and properties of Enzymes.

(2 × 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
 Sixth Semester B.Sc Zoology Degree Examination, March 2018
 ZO6B11 T – Physiology & Endocrinology
 (2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

I. Answer all questions. Each question carries 1 Mark.

1. Name the largest chamber of a ruminant stomach
2. Acetyl choline hydrolyzed byto prevent prolonged post- synaptic depolarization in muscle
3. Osmotic regulation + ionic regulation =
4. Name an Animal with Hygroscopic skin -----
5. Temporary condition in which all the muscle of a dead individual becomes rigid is called.....
6. All cell organelle, except ----- is present in nerve cell
7. Melatonin secreted from.....
8. Name the interconnection between right and left lateral lobes of thyroid gland on either the trachea.
9. Name the master gland of endocrine system.
10. Name the oxidative, enzyme- catalyzed, chemiluminescent reaction

(10 × 1 = 10 marks)**II. Short answer questions. Answer any ten questions**

11. Explain Oxygen dissociation curve with diagram
12. Explain the structure of Actin
13. Short note on carbon dioxide transport of respiratory gases
14. Explain the mechanism of hormone action at the level of cell membrane .
15. Write note on nutrition in pregnancy
16. What are the advantages of breast feeding?
17. Explain the structure of electric organ
18. Write short note on endocrine system of insects.
19. Comment on different types of heart
20. Neurophysiological control of respiration.
21. Write notes on functions of oestrogens
22. Explain the significance of bioluminescence

(10 x 2= 20 Marks)

III. Short answer questions. Answer any five questions

23. Structure and properties of Haemoglobin
24. Comment on Hormone regulation in menstrual cycle
25. Write brief note on human Blood functions and composition
26. Explain the urea cycle
27. What are the pituitary hormones?
28. Explain the positive and negative feedback mechanism of hormones with examples
29. Explain the advantages of dietary fibres
30. Comment on ECG

(5 x6= 30 Marks)

III. Answer any two questions

31. Describe the mechanism of nerve impulse transmission
32. Comment on biochemical pathways of blood coagulation
33. Explain the Lohmann scheme of reactions.
34. Explain the structure and their hormones of following Endocrine glands in human
 - i). Pituitary,
 - ii) Pineal,
 - iii) Pancreas

(2 x10= 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, March 2018
ZO6B12 T – Molecular Biology & Bioinformatics
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

I. One word questions (Answer all the questions)

1. Give an example for protein database
2. Who proposed central dogma of molecular biology?
3. Name the special type of nucleotide used in Sanger sequencing
4. Name the database showing current sequence map of human genome
5. Which organisation maintains the data in Gene bank?
6. Name the alignment procedure that tries to align the entire sequence
7. Give an example for ribozyme
8. Genetic material of retrovirus
9. Name the lactose digesting enzyme in Lac operon
10. Name the experimental organism used by Griffith

(10 x1=10 Marks)**II. Paragraph questions (Answer any ten questions)**

11. Comment on clustalW
12. Define Bioinformatics
13. Write notes on housekeeping genes
14. Briefly explain NCBI
15. Write short note on polycistronic mRNA
16. Describe the features of jumping genes
17. Comment on the scope of bioinformatics
18. Give an account on split genes
19. What is C value paradox
20. Write short notes on applications of DNA sequencing
21. Distinguish between cistron and muton
22. Comment on MIPS

(10 x 2= 20 Marks)

III. Short answer questions (Answer any five questions)

23. Describe RNA splicing
24. Give an account on Secondary data bases
25. Describe the features of genetic code
26. Briefly explain micro array technique
27. Explain BLAST and FASTA
28. Briefly explain Lac operon
29. Explain molecular chaperons
30. Explain Sanger sequencing method

(5 x 6= 30 Mark)

IV. Essay Questions (Answer any two questions)

31. Write an essay on Primary data bases
32. Write an essay on protein synthesis
33. Explain different types of sequence alignments
34. What is an operon ? Explain the operon concept by using Lac operon.

(2 x 10= 20 Mark)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
 Sixth Semester B.Sc Zoology Degree Examination, March 2018
 ZO6B13 T – Reproductive Biology, Developmental Biology & Teratology
 (2015 Admission onwards)

Time: 3 hours

Max. Marks: 80

Answer all questions. Each question carries one mark

The ruptured Graafian follicle is filled with clotted blood called

The attachment of blastocyst to the uterine wall is termed as

Eggs cells are fertilized by sperm outside the body is called

Who is the father of embryology?

Insect eggs are classified based on the amount of yolk is

The third cleavage plain of frog and amphioxus isplane

The single layered blastula is converted in to a three layered structure is called

The fusion of male and female pronuclei is called

The development of embryo without spermatoc contribution is called

The abnormalities caused by genetic events are called

(10 x 1 = 10 Marks)

Answer any ten questions. Each question carries two marks.

1. What is pluripotency?

2. What is capacitation?

3. What is super ovulation?

4. What is gestation?

5. What is ICSI?

6. Explain contraception.

7. What is fate map?

8. What is cell lineage?

9. List out the major function of allantois.

10. Different penetration and copulation path?

(10 x 2 = 20 Marks)

III. Answer any five questions. Each question carries six marks.

21. What is cryopreservation?
22. Describe the environmental factors causing teratogenic effects with example.
23. Write the salient features of 48hours chick embryo.
24. With the help of a diagram, describe oogenesis.
25. What are stem cells? Comment on its application.
26. Define cleavage, classify based on the amount of yolk.
27. Explain neurulation in Amphioxus.
28. Describe the hormonal control of amphibian metamorphosis

(5 x 6 = 30 Marks)

IV. Answer any two questions. Each carries ten marks.

29. Write an essay on the extra embryonic membrane in chick.
30. Describe reproductive cycles in mammals and their hormonal control.
31. Discuss different assisted reproductive techniques.
32. Write an essay on environmental disruption of animal development.

(2 x 10 = 20 Marks)

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(Pages : 2)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, March 2018
ZO6B14 T – Biotechnology, Microbiology & Immunology
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

I. Answer all questions. Each question carries one mark.

- 1 The enzyme used for joining DNA fragments.
- 2 Gene introduced by transfection is called.....
- 3 Bt cotton contains the toxic gene isolated from which bacterium.
- 4 Bacteria used for clearing the oil spills.
- 5 The study of fungi is called.....
- 6 Cyano-bacteria is also known as.....
- 7 Cock-screw shaped bacteria are called.....
- 8 Name the major component of bacterial cell wall.
- 9 The protein coat of virus is called.....
- 10 Give an example for retrovirus.

(10 x 1 = 10 Marks)**II. Short answer questions – Answer any ten questions.**

- 11 What are Antibiotics?
- 12 What is chemotherapy?
- 13 What is the Anaphylaxis?
- 14 What are APCs?
- 15 Write notes cytokines.
- 16 What are haptens?
- 17 What are dendritic cells?
- 18 List the functions of centrioles.
- 19 Name two phagocytic cell?
- 20 Give an account on Interferons.
- 21 What is opsonization?
- 22 Discuss the properties of antigen.

(10 x 2 = 20 Marks)

III. Short answer questions - Answer any five questions.

- 23 Give an account on different types of agglutination reaction.
- 24 Briefly explain the structure of antibody with the help of a diagram.
- 25 Write note on interleukins and their role.
- 26 What is major histo-compatibility complex?.
- 27 Write note on transgenic animals
- 28 Distinguish between RAPD and VNTR.
- 29 Explain chromosome walking.
- 30 Write an account on Northern blotting?

(5 x 6 = 30 Marks)

IV. Long Essay- Answer any two questions

- 31 Write an essay on molecular markers.
- 32 Describe the structure of a typical bacterium with the help of a diagram.
- 33 Describe cell mediated immunity
- 34 Briefly describe different immunoglobulins and their biological function.

(2x10=20 Marks)