

INVERTEBRATES I (09CT11)

ANSWER ALL QUESTIONS

SECTION – A

10X1=10 Marks

Multiple choice questions:

1. The term Porifera means (CO2)
a. Presence of many pores in the body b. Presence of flagellated cells in body
c. Present of Mesogloea d. None of these
2. The cavity common to all types of canal systems is (CO2)
a. In current canal b. Excurrent canal c. Radial chamber d. Spongocoel
3. Gemmules are helpful in (CO2)
a. Digestion b. Sexual reproduction c. Secretion of Spicules d. Survival in drought
4. The cavity common to all types of canal systems is (CO2)
a. In current canal b. Excurrent canal c. Radial chamber d. Spongocoel
5. Endoskeleton of sponge is ----- (CO2)
a. Spicules b. Conidoblast c. Cilia d. Trichocyst
6. Obelia is a (CO3)
a. Bilateral symmetry b. Radial symmetry c. fresh water animal d. All the above
7. Which one is the intermediate between radiata and bilateria (CO3)
a. Amoeba b. Annelida c. Ctenophora d. Star fish
8. Obelia is a (CO3)
a. Dimorphic colony b. Monomorphic colony c. Bacterial colony d. Fungai colony
9. Coral reefs is made up of (CO3)
a. CaCO₃ b. H₂SO₄ c. NaCl d. H₂O
10. The calcareous skeletons is present in (CO3)
a. Corals b. Scypha c. Volvox d. Euglena

ANSWER ANY FIVE QUESTIONS

SECTION – B

5X2=10 Marks

Very short answer:

11. Define Hermaphrodite. (CO2)
12. What are spicules? (CO2)
13. Mention the functions of canal systems. (CO2)
14. What is Gemmules? (CO2)
15. Which zooid of obelia sexually reproduced? (CO3)
16. What is hypnotoxin? (CO3)
17. Comment on Polyps. (CO3)

ANSWER ANY THREE QUESTIONS

SECTION – C

3X6=18 Marks

Short answer:

18. Discuss briefly the structure of the Ascon sponge. (CO2)
19. Write a short account on spicules of sponges. (CO2)
20. Give a short note on structure and function different of canal system. (CO2)
21. Describe the medusa of *Obelia* colony with neat labelled diagram. (CO3)
22. Write short account on affinities of Ctenophora. (CO3)

ANSWER ANY ONE QUESTIONS

SECTION – D

1x12=12 Marks

Long Answer:

23. Write a detailed account on reproduction of sponges. (CO2)
24. Classify the phylum Coelenterata up to class level with example. (CO3)

Date: 13/10/2018

Human Anatomy (09NE11)

ANSWER ALL QUESTIONS

SECTION – A

(10X1=10 Marks)

Multiple choice questions:

1. The study the structure and functions of the skin is called
 a. Dermatology b. Psychology c. Psychology d. Mycology
2. The functional unit of kidney is
 a. Dendron b. Nephron c. Neuron d. Axon
3. Fibrin is produced by
 a. WBC b. RBC c. Blood platelets d. Lymphocytes
4. Corpus callosum is found in the brain of
 a. Frog b. Man c. Snake d. Parrot
5. Female sex hormones is
 a. Progesterone b. Oestrogen c. Estradiol d. All the above
6. Leydig cells are found in
 a. Testes b. Ovary c. Pituitary d. Thymus
7. Which retinal cells are involved in the colour vision?
 a. Rods b. Cones c. Neuroglial cells d. Neurons
8. The human lungs covered by
 a. Pleura b. Hydra c. Tissue d. Pericardium
9. The P^H in intestine is
 a. 2.5 to 5 b. 7 c. 6 d. 8 to 9
10. What is main functions of hair?
 a. Protection b. Circulation c. Digestion d. Respiration

ANSWER ANYFIVE QUESTIONS

SECTION – B

(5X2=10 Marks)

Very short answer:

11. Expand FSH.
12. What is pericardium?
13. Comment on systolic
14. Write the skeletal parts of human hind limb.
15. Write the dental formula of man.
16. Name any two immunoglobulins present in human blood plasma.
17. Mention the any two male sex hormones.

ANSWER ANY THREE QUESTIONS

SECTION – C

(3X6=18 Marks)

Short answer:

18. Explain the structure of a typical tooth in man.
19. Discuss the structure of human kidney.
20. Comment on functions of thyroid gland.
21. Elucidate the structure of human brain.
22. Briefly explain the structure of human heart.

ANSWER ANY ONE QUESTIONS

SECTION – D

(1x12=12 Marks)

Long Answer:

23. Explain the structure of eye in human.
24. Give an account on ABO Blood groups.

CELL BIOLOGY - 09CT31

SECTION – A Multiple choice questions

Answer All Questions:

10X1=10 Marks

1. RNA carrying genetic information is
a) mRNA b) tRNA c) rRNA d) All the above
2. The RNA carrying anti codons for corresponding amino acid is
a) mRNA b) tRNA c) rRNA d) All the above
3. The site of protein synthesis is
a) Lysosome b) Nucleus c) Mitochondrion d) Ribosome
4. The concept of operon was proposed by
a) Griffith b) Alexander Fleming c) Jacob and Monad d) Mendel
5. Which one of the following is / are part(s) of an operon?
a) Structural genes b) An operator c) A promoter d) All the above
6. In a double stranded DNA, two helices are held together by ----- between complementary purine and pyrimidine residues.
a) Hydrogen bonds b) Hydrophobic interaction c) Ionic bonds d) van Der Waals force
7. A nucleoside has
a) Nitrogenous base + Sugar b) Nitrogenous base + sugar + phosphate
c) Nitrogenous base + phosphate d) Sugar + phosphate
8. In a nucleic acid, adjacent nucleotides are linked by
a) Ionic bond b) Hydrogen c) Phosphodiester bond d) Hydrophobic interaction
9. Watson and Crick's double helical DNA is ---- type.
a) A b) B c) Z d) D
10. RNA carrying amino acid during protein synthesis is
a) mRNA b) tRNA c) rRNA d) All the above

SECTION – B Very short answer

Answer any Five Questions:

5X2=10 Marks

11. What is Transcription?
12. Define urea cycle.
13. Comment on Thermogenesis.
14. State Chargaff's rule.
15. Define the term programmed cell death.
16. What is the significance of operon system?
17. Interpretate the term anaplasia.

SECTION – C Short answer

Answer any Three Questions

3X6=18 Marks

18. Explain the structure of mitochondria with neat diagram.
19. Describe the structure of Lac Operon with suitable sketch.
20. Comment on Krebs cycle.
21. Enumerate the types of RNA.
22. Characterize the cancer cells.

SECTION – D Long Answer

Answer any One Question:

1x12=12 Marks

23. Give a detailed account on Protein synthesis.
24. Narrate the molecular events occurring during DNA replication.

GENETICS – 09CT32

SECTION – A Multiple choice questions

Answer All Questions:

10X1=10 Marks

1. Who coined the term linkage?
a) Correns b) Mendel c) Morgan d) De Vries
2. Complete linkage has been reported in
a) Maize b) Human female c) Male *Drosophila* d) Female *Drosophila*
3. Crossing over is more frequent in
a) males b) females c) both d) None of these
4. Homologous chromosomes exchange corresponding segments between non-sister chromatids during
a. Linkage b. Crossing over c. Mutation d. Epistasis
5. The graphic representation of the genes in a chromosome is
a. linkage b. crossing over c. Chromosome map d. none
6. The advice given for the improvement of hereditary characters is called
a. Gene analysis b. Genetic counselling c. gene therapy d. Syndromes
7. The accumulation of phenylalanine in the blood is called
a. Hyperaemia b. Phenylketonuria c. Polyuria d. Polydipsia
8. The Y linked genes are called
a. Chromosomes b. Sex linkage c. HH gene d. Holandric gene
9. Down's syndrome is a
a. 22-trisomy b. 25-trisomy c. 32-trisomy d. 21-trisomy
10. Fraternal twins is also called
a. Twins b. Siamese twins c. Dizygotic twins d. Identical twins

SECTION – B Very Short Answer

Answer any FIVE Questions:

5X2=10 Marks

11. What is coupling?
12. Comment on crossing over
13. Define Cis arrangement
14. What is coincidence?
15. Define inborn errors of metabolism
16. Compare the positive and negative eugenics
17. Comment on albinism

SECTION – C Short Answer

Answer any THREE Questions:

3X6=18 Marks

18. Describe the mechanism of crossing over and its significances
19. Narrate the Stern's experiment on cytological proof for crossing over
20. Discuss the procedure for chromosome mapping with an illustration
21. Discuss klinefelter's syndrome (22AA+XXY) and Turner's syndrome (22AA_{-X})
22. Explain about eugenics and euphenics

SECTION – D Long Answer

Answer any ONE Questions:

1X12=12 Marks

23. Describe the types of linkage with examples
24. Write an essay on extra chromosomal inheritance of shell coiling in snail and paramecium.

Date: 11/10/2018

Public Health and Hygiene (09SB31)

ANSWER ALL QUESTIONS

SECTION – A

(5X1=5 Marks)

Multiple choice questions:

1. National Tuberculosis Institute is located in
a. Chennai b. Bangalore c. Mumbai d. Delhi
2. National anti -malarial programme was started in
a. 1999 b. 2000 c. 2004 d. 1998
3. Which one of the following disease occurs in excessive food intake?
a. Obesity b. Hypertension c. Heart attack d. Stomach disorder
4. Symptoms of severe hypertension can include
a. Chest pain b. Visual changes c. Blood in the urine d. All the above
5. ____is the assistance given to any person suffering a sudden illness or injury
a. First movement b. First aid c. Patients d. Nurse

ANSWER ANYTWO QUESTIONS

SECTION – B

(2X2=4 Marks)

Very short answer:

6. What is First aid?
7. Expand WHO.
8. What is Obesity?
9. Comment Alcoholism.

ANSWER ANY ONE QUESTIONS

SECTION – C

(1X6=6 Marks)

Short answer:

10. State and explain the causes of hypertension.
11. Briefly explain the role of NGOs in health education.

ANSWER ANY ONE QUESTIONS

SECTION – D

(1x10=10 Marks)

Long Answer:

12. Explain the main activities of health programmes in India.
13. Give a detailed account on occupational health hazards.

Animal Organization - 09AT01

SECTION – A Multiple choice questions

Answer All Questions:

10X1=10 Marks

- Which is the U shaped portion of nephron in kidney?
a) Proximal convoluted tubule b) Distal convoluted tubule
c) Henle's loop d) Collecting duct
- The right kidney is slightly lower than the left because of the presence of
a) Pancreas b) Stomach c) Heart d) Liver
- The glomerulus and Bowman's capsule are together called
a) Urethra b) Collecting duct c) Urinary bladder d) Malpighian corpuscle
- The female rabbit is
a) Spontaneous ovulatory b) seasonal ovulatory
c) induced ovulatory d) natural ovulatory
- In rabbits fertilization takes place within
a) Vagina b) Placenta c) Fallopian tube d) Ovary
- The heart of calotes is _____ in shape
a) Round b) Hexagonal c) Triangular d) Square
- The heart of calotes is covered by a membrane called _____
a) Plasma membrane b) Pericardium membrane
c) Interauricular septum d) Pericardial fluid
- The muscles used for flight are called _____
a) Pectoralis major muscle b) Flapping
c) Flight muscle d) Coraco brachialis longus
- Human brain is mainly divided into
a) two parts b) three parts c) four parts d) five parts
- Largest portion of brain is
a) Hypothalamus b) cerebellum c) thalamus d) cerebrum

SECTION – B Very short answer

Answer any Five Questions:

5X2=10 Marks

- What is Dialysis?
- Define the characteristics of human urine.
- Give a short note on Diuresis.
- Comment on flight muscles.
- What is cranium?
- Give a short note on cerebral cortex.
- Mention the major functions of pituitary gland.

SECTION – C Short answer

Answer any Three Questions

3X6=18 Marks

- Draw a labeled diagram of male reproductive system of Rabbit.
- Describe the female reproductive system of Rabbit with neat sketch.
- Describe the structure of kidney with labelled diagram.
- Discuss in brief the flight mechanisms of pigeon.
- Describe in brief the locomotory mechanism of amoeba.

SECTION – D Long Answer

Answer any One Question:

1x12=12 Marks

- Write an essay on structure of nephron and urine formation in kidney with neat labelled diagram.
- With a neat diagram explain the nervous system of earthworm.

Biochemistry and Biophysics (09CT51)

ANSWER ALL QUESTIONS

SECTION – A

10X1=10 Marks

Multiple choice questions:

1. Lactose is present in
a. Sugarcane b. Pine apple c. Lemon d. Milk
2. The common fatty acids present in natural fats
a. Palmitic acid b. Stearic acid c. Oleic acid d. All
3. Pick out the basic amino acids
a. Cysteine b. Cystine c. Methionine d. Lysine
4. Among the following ----- is considered as “Universal currency of free energy”
a. NADH b. AMP c. ATP d. FAD
5. The force by which the molecules are bound is called the ----- of the liquid
a. Adsorption b. Surface tension c. Osmosis d. Brownian movement
6. Brownian movement was first observed by
a. Tyndall b. Schwann c. DeRobertis d. Robert Brown
7. The energy transformation in the biological system is called -----
a. Biodiversity b. Bio-mining c. Bioenergetics d. Bioremediation
8. The change of energy content of a system is called
a. Efficiency b. Effector c. Enthalpy d. Entropy
9. ----- is describes the energy, work and conversion within and among the energy and work
a. Hemodynamic b. Thermodynamic c. Biodynamic d. None of these
10. Which of the following is not a physical role of ATP?
a. Bioluminescence b. Maintenance synthesis c. Muscle contraction d. Bioelectricity

ANSWER ANY FIVE QUESTIONS

SECTION – B

5X2=10 Marks

Very short answer:

11. Define Oligosaccharides.
12. What is Sphingomyelin?
13. What is chromatography?
14. Define Osmosis and osmotic pressure
15. What is surface tension?
16. Define Bioenergetics.
17. Differentiate exothermic and endothermic reactions.

ANSWER ANY THREE QUESTIONS

SECTION – C

3X6=18 Marks

Short answer:

18. Classify proteins and cite examples.
19. Describe the high energy compounds.
20. What is Donnan membrane equilibrium? Explain it with an example?
21. Explain in detail the law of thermodynamics.
22. Write a short account on adsorption.

ANSWER ANY ONE QUESTIONS

SECTION – D

1x12=12 Marks

Long answer:

23. Write a detailed account on biological oxidation.
24. Write an essay on biosynthesis of fatty acids.

Dept. of Zoology
Vivekananda College
Tiruvedakam West
Date: 15/10/2018

III B.Sc., ZOOLOGY

III Sessional Test
V Semester
Max.Marks: 50
Time: 2 Hours

Biotechnology (09CT52)

ANSWER ALL QUESTIONS

SECTION – A

(10X1=10 Marks)

Multiple choice questions:

- In plant tissue culture, haploid plant can be obtained from
a) Leaf culture b) Bud culture c) Anther culture d) Leaf culture
- In plants, the tissue with totipotency is
a) Sieve tube b) Xylem vessel c) Collenchyma d) Meristem
- The plasmid containing foreign DNA fragment in to a bacterial cell is known as
a) Transfection b) Transformation c) Transduction d) Transillumination
- Plasmid are _____
a) Extra chromosomal b) Double stranded c) Circular d) All of these
- The first adopted to transfer rDNA into E. coli cells by Mendell & Higa in _____
a) 1999 b) 1979 c) 1980 d) 1982
- The following is acts as store house for various genes of an organism
a) DNA b) RNA c) cDNA d) Both b & c
- Cry genes or Bt genes are obtained from
a) Cotton pest b) Tobacco plant c) Bacillus thuringiensis d) E. coli
- Desired improve varieties of economically useful crop are raised by
a) Migration b) Biofertilizer c) Hybridization d) Natural Selection
- Organic farming is the technique of raising crops through uses of?
a) Manures b) bio fertilizers c) Resistant varieties d) All of these
- Insecticides generally attack
a) Respiratory system b) Nervous system c) Muscular system d) Circulatory system

ANSWER ANY FIVE QUESTIONS

SECTION – B

(5X2=10 Marks)

Very short answer:

- Define the term totipotency.
- Discriminate the dedifferentiation and redifferentiation.
- What is hardening?
- Define gene library.
- Comment on expression vectors.
- What is contraception?
- Define disease resistant plants.

ANSWER ANY THREE QUESTIONS

SECTION – C

(3X6=18 Marks)

Short answer:

- Describe the steps involve in organogenesis in plants with labelled sketches.
- Give a brief account on plant embryogenesis with representative pictures.
- Write the principle, methods and application of the cDNA library.
- Write a short note on YAC.
- Explain the following terms: (i) Ore leaching (ii) Bio-fertilizer (iii) Bio-pesticides

ANSWER ANY ONE QUESTIONS

SECTION – D

(1x12=12 Marks)

Long Answer:

- Elaborate the genetically modified organisms with representation of transgenic sheep and fish.
- Describe any three techniques that are used to transfer rDNA into the bacterial cell.

Biostatistics, Computer Applications & Bioinformatics – 09EP51

SECTION – A Multiple choice questions

Answer All Questions:

10X1=10 Marks

1. Chi-square test is
 - a. Test of significance of overall deviation square
 - b. Student test
 - c. Used to test the significance difference between two means
 - d. All of these
2. Chi-square test has developed by
 - a. W.S. Gossett
 - b. Karl Pearson
 - c. A.R. Fisher
 - d. Pascal
3. The test to be applied when the numbers of observations are less than 30 is said to be
 - a. Z-test
 - b. t-Test
 - c. F-test
 - d. Chi-square test
4. A statement about the value of a population parameter is called:
 - a. Null hypothesis
 - b. Alternative hypothesis
 - c. Simple hypothesis
 - d. Composite hypothesis
5. The square of the standard deviation is
 - a. Variance
 - b. Range
 - c. Mean
 - d. Mode
6. The occurrence of two or more simple events simultaneously is
 - a. simple event
 - b. compound event
 - c. independent event
 - d. dependent event
7. The probability is determined before the event takes place is
 - a. apriori probability
 - b. aposteriori probability
 - c. Both a and b
 - d. none
8. Comparison of nucleotide with the nucleotide sequence is known as
 - a. BLAST_P
 - b. BLAST_X
 - c. BLAST_N
 - d. tBLAST_x
9. The branches of a Phylogenetic tree is known as
 - a. Root
 - b. Clade
 - c. Scale
 - d. Topology
10. The tool used to identify highly conserved or similarity region within a set of related sequence is
 - a. BLAST
 - b. FASTA
 - c. multiple sequence alignment
 - d. Parsimony

SECTION – B Very Short Answer

Answer any FIVE Questions:

5X2=10 Marks

11. List out the merits of mean deviation
12. What is standard deviation?
13. Define measures of dispersion?
14. Comment on BLAST_P and BLAST_X.
15. Write short notes on cladistic method of Phylogenetic relationship.
16. Define Synapomorphies characteristics.
17. What is probability?

SECTION – C Short Answer

Answer any THREE Questions:

3X6=18 Marks

18. Write an account on student t test
19. Describe chi-square analysis
20. In a dihybrid experiment in F₂ generation the following plants appear yellow round 920, yellow wrinkled 280, green round 320 and green wrinkled 80. With the help of χ^2 test, verify that 9:3:3:1 ratio is followed.
21. Distinguish local and global alignment with suitable examples.
22. What are all the advantages and limitations of multiple sequence alignment?

SECTION – C Long Answer

Answer any ONE Questions:

1X12=12 Marks

23. Calculate standard deviation and coefficient of variation for the following data which shows the weight of fishes in grams

Weight of fishes (g)	0-10	10-20	20-30	30-40	40-50
No. of fishes	2	4	7	8	3

24. Give a detailed account on various types of BLAST programme and BLAST windows.

SERICULTURE – 09SB51

SECTION – A Multiple choice questions

Answer all questions

1 x 5=5 marks

1. The unwinding of silk thread from the cocoon is called
a) Silk reeling b) Pruning c) Mulching d) Irrigation
2. Raksha Rekha is a replant for
a) Ant b) Uzi fly c) House fly d) Rat
3. Which one is caused muscardine diseases to silkworm?
a) Virus b) bacteria c) Fungi d) Protozoan
4. The dead pupa is found sticking to the inner shell of the cocoon is called
a) Mute cocoon b) Rust cocoon c) Premature cocoon d) Fragile cocoon
5. *Pediculus ventricosus* is a ____
a) Straw mite b) Nematode c) Rat d) Squirrels

SECTION – B Very Short Answer

Answer any two questions:

2x2 = 4 marks

6. Give any two methods to control the Uzi fly.
7. What is cocoon cooking?
8. What is sorting of cocoon?
9. What is Deflossing?

SECTION – C Short Answer

Answer any one question:

1x6 = 6 marks

10. Describe the methods of stifling.
11. Describe the fungal diseases of silkworm.

SECTION – D Long Answer

Answer any one question:

1x10 = 10 marks

12. Write an essay on physical characteristics of cocoon.
13. List out the different types of defective cocoons.
