

## UNIT I

### HUMAN PHYSIOLOGY

1. Number of calories produced in 1g of carbohydrate.
2. Which polysaccharide present in animal's liver
3. Which vitamin produced in the presence of sunlight?
4. Which vitamin is involved in blood clotting?
5. Write name of the disease caused by vitamin D deficiency in children.
6. Which element gets oxidized?
7. Which organic matter involved in blood clotting
8. What is the average BMI for adults
9. What is the name of enzyme present in saliva.
10. Write the name of HCl secreting cell
11. Which bacteria causing ulcer
12. Which place ATP molecules are get together during muscle contraction?
13. What is the name of calcium releasing organelle for muscle contraction
14. Name of Tuberculosis causing bacteria
15. What is the other name of mitral valve
16. What is the hormone for natural remedy of atherosclerosis in female
17. Which is the pacemaker of heart
18. What is the average blood pressure of human beings
19. Impact of coronary thrombosis
20. What is the impact of blood clotting in the way of cerebral vessel towards the brain
21. Which resin used for filling the cavity in root canal treatment
22. Which is used to produce bile salts
23. Which tissue is take part in remodeling phase of bone
24. Name of inflammation in synovial membrane
25. What is the enzyme involved in the Rigor Mortis
26. Which chemical can induce the muscle contraction
27. Which part of the brain control the food swallowing
28. Name of vitamin involved in aging of RBC
29. Which molecule inhibit the blood clotting
30. First Heart transplantation surgery handled by whom
31. Which organism act as intermediate between virus and bacteria
32. Name of lipids and cholesterol which create Blood vessel clotting

### PHYSIOLOGY

1. The surface area of skin in our body is
2. An oily substance called sebum is secreted by
3. Rag weed plant causes allergic response and result in
4. The amount of urea present in blood
5. Urea biosynthesis takes place in
6. Number of ATP molecules spent to convert ammonia to urea is
7. During glomerular filtration the malpighian body acts like a
8. Net filtration force which is responsible for the filtration in glomerulus is
9. The amount of urea reabsorbed in the urinary tubules is
10. Area responsible for reabsorption of water, glucose, sodium phosphate and bicarbonate is
11. The volume of water present in glomerular filtrate is
12. Recently insulin resistant diabetes is commonly noticed in the age group of
13. The type of diabetes that develop due to heavy viral infection belongs to the category
14. Which is called artificial kidney
15. What is meant by chronic brain syndrome
16. What is thyrotrophin

17. Other name of vasopressin
18. Name of the hormone which is secreted by beta cells
19. What is hyper glycaemic hormone
20. What is hypo glycaemic hormone
21. Number of rod cells in eye
22. Identification method for sugar in urine
23. Name of the substance for transmission of stimulus
24. Term for memory loss
25. Genes which is responsible for Alzheimer's disease
26. Instrument used for recording the electric potential of brain neurons
27. The left and right hemispheres exchange information through which
28. Volume of CSF in human
29. Rate of CSF secretion in brain per day
30. Signals communicated by chemical messenger is
31. Name for head of the gland
32. Other name of pituitary gland
33. Excessive secretion of growth hormone in adult
34. Name of the hormone secreted by Corpus luteum
35. What is the reason for simple goiter
36. Hormone secreted by alpha cells
37. Fight, flight and fright hormone
38. Testosterone is secreted by
39. Intensity of sound is measured by
40. Vitamin used for function of retina
41. Amino acids required for melanin pigments synthesis
42. The first line of treatment of disintegrates stones by focusing shock waves
43. Temperature of epididymis which is the place for storing sperms
44. The first success with invitro fertilization was achieved by
45. Which contains the auditory receptors
46. Name of the disease due to increased ocular pressure
47. What is the method of permanent birth control in male
48. What is the method of permanent birth control in female
49. Control of rage and fear, Feeling good after a meal is
50. At which stage embryonic cells are going to implant in test tube fertilization
51. Hearing loss is blockade of the external auditory meatus with wax secreted by
52. Size of mammalian ovary
53. Number of sperm cells produced per day

**3 Marks**

1. What are essential amino acids?
2. What is monosaccharide?
3. Define kwashiorkor? What are their symptoms?
4. What is marasmus? What are their symptoms?
5. What is PUFA?
6. Give the deficiency of vitamin A.
7. What are the symptoms of pellagra.
8. Define obesity.
9. Define BMI
10. Give the uses of root canal treatment.
11. Define physiotherapy.
12. What is gout? What are their symptoms?
13. What is rigor mortis?
14. What is herring-breuer reflex?
15. What is myocardial infarction?

16. Define cardio - pulmonary resuscitation
17. Give the difference between the thrombosis & embolus.
18. Define angiogram
19. What is heart block
20. What is the function of lipids?
21. What is appendicitis? What are their symptoms?
22. What is hepatitis?
23. What are the symptoms of osteomalacia.
24. What is angina pectoris?
25. Define thrombosis. Give the two types?
26. What are the causes of pneumonia?
27. Define plasma freeze.
28. What is coronary angioplasty?
29. Define ulcer & side effects
30. What are mamillary bodies?
31. What is mean by corpora quadrigemina?
32. Give the functions of reflex action.
33. Define amnesia
34. Give the symptoms of alzheimer disease.
35. Give the role of cerebro spinal fluid.
36. What is tetany.
37. What is cataract
38. Give the symptoms of cataract
39. Define CLR
40. Define reflex arc.
41. Define vasectomy
42. Give note on tubectomy.
43. Define acromegaly
44. Give the role of oxytocin.
45. Give the symptoms of graves disease
46. Define myxoedema.
47. Define cretinism
48. What is diabetes mellitus
49. Give the role of visual pathway.
50. Define IVF
51. Define menstrual cycle
52. What is corpus luteum.
53. What is corpus albicans.
54. Give the defects of ear.
55. Give a note on hearing aid.
56. Define BMR
57. Give the accommodation of eye.
58. Define ureotelism.
59. Define dialysis.

**5 Marks**

1. Give a note on blood clotting mechanism
2. Give a note on root canal treatment.
3. Explain the different types of bone fractures.
4. Give a note on healing of bones in fracture
5. Give a note on arthritis
6. Write a note on structure of sarcomere.
7. Give a note on bronchitis
8. Write a note on origin and conduction of heart beat

9. Explain the types of memorys.
10. Give a note on right and left brain concept
11. write a short note on retinopathy
12. Explain - eye care
13. Give a short note on types of sleep
14. Explain the functions of insulin
15. Give a note on hormones of neurohypophysis
16. Give the fuctions of cerebro spinal fluid (csf)
17. Comment on functions of skin

**10 Marks**

1. Explain the process of digestion in detail.
2. Explain the myocardial infraction in detail.
3. Write a note on mechanism of breathing
4. Write a note on blood & its function.
5. Explain the errors of refraction
6. Give the mechanism of urine formation
7. Write a note on menstrual cycle
8. Write a note on national family welfare programme is a comprehensive scheme?
9. Explain adrenal gland.

**UNIT II  
MICROBIOLOGY**

1. Who first developed vaccine for rabies in man
2. What one of the following field lead way for modern microbiology
3. Virions contain only a single copy of nucleic acid, hence they are called
4. Tumour inducing viruses are called
5. Which one of the following is a protozoa disease
6. The pathogenic form of entamoeba histolytica is
7. The more promising chemotherapeutic agent for treating viral disease is
8. What are all the antifungal and anti microbial agent
9. At which temperature eggs are incubated for the growth of virus
10. Germplasm theory was discovered by
11. Pure culture and antiseptic technique was identified by
12. Causes of dysentery in child
13. Large size of virus
14. Substances used for converting liquid to solid
15. The disease caused by *Leishmania donovani*
16. Black water fever caused by
17. Which enzyme used by the virus for the conversion of RNA to DNA
18. Which cell HIV viruses are stored
19. Name of antiretroviral agents for control AIDS
20. Fungal infection for mouth and throat
21. Nobel prize was awarded by Robert coch for what
22. Who discovered the conversion of liquid media for culture of bacteria to solid media
23. What are the things used for vaccine production
24. Toxin excreted by plasmodium
25. Who discovered the microbes through the process of fermentation
26. In which disease the lymphoid glands are get enlarged and inflamed
27. Method of virus cultivation which are not easy to grow

28. HIV (retrovirus) belongs to which subfamily
29. Agent for production of enterotoxin
30. What is controlled endoparasite
31. Disease spread from animals to human
32. Rabies virus belongs to which family
33. Sexual reproduction of Plasmodium takes place in
34. Virus used for production of smallpox vaccine

**3 Marks**

1. Give the contribution of Louis Pasteur.
2. What are the types of malaria.
3. What is zoonosis.
4. Define anthroponoses
5. Define zooanthroponoses
6. Define chemotherapy
7. Give few examples of antibiotics.
8. Write a note on bacterial culture
9. Draw the structure of HIV
10. Give the method for identifying AIDS
11. Give the mode of action of antibiotics.
12. What are antibiotics.
13. Define transduction.
14. Give the symptoms of rabies.
15. Give chicken embryo technique
16. Define amoebiasis
17. Define diploid cells.

**5 Marks**

1. Give the cultivation of animal viruses.
2. Write a note on bacterial culture method.
3. Write a note on viral diseases.
4. Write a note on bacterial diseases.
5. Write a note on pathogenic bacteria.
6. Write a note on chemotherapeutic agents.
7. Give the symptoms of AIDS
8. Give the control measures of AIDS.
9. Explain the structure of HIV.

**BIOLOGY – ZOOLOGY  
LESSON 3  
IMMUNOLOGY**

**One word Questions:**

1. Which of the following can induce immunity: bacteria, viruses, parasites
2. Skin is a/an anatomical barrier
3. Which among the following is anti-bacterial? lysozyme
4. Which of the following is anti-viral: interferon
5. Identify the phagocytic cells from the following combinations: Macrophage and neutrophil
6. Histamine is secreted by Mast cells
7. Humoral immunity consists of immunoglobulin molecules
8. Which type of graft is used in plastic surgery? autograft
9. MHC genes in mouse are located in Chromosome 6
10. Which of the following is an autoimmune disease? Multiple sclerosis
11. Which antibody characterizes the allergic reaction: IGE
12. SCID is due to Adenosine deaminase deficiency

13. Which of the following causes AIDS ? Retro virus
14. Thymus growth occurs up to 12 years
15. Which of the following secretes immunoglobulin B-lymphocyte
16. The H-chain of immunoglobulin has a molecular weight Twice that of light chain
17. Immunoglobulins are chemically glyco-proteins
18. Hyper variability regions are present in heavy and light
19. Organ transplantation from pig to human is an example for Xeno-graft
20. Graft between identical twins is called Iso graft
21. Autoimmune diseases Multiple Sclerosis
22. Secretions contains lysozyme tears, saliva
23. The organ which filters the microbes (foreign proteins) from blood Lymph nodes
24. The Part of the antibody which interacts with antigens Paratope
25. Hassel's Corpuscle presents in Medulla region of Thymus
26. The organ which appeared first in the animals thymus
27. Total number of lymph nodes in the human body approximately 600
28. The role of T- Lymphocytes Cell mediated Immunity
29. The role of B-Lymphocytes Antibody mediated or Humoral mediated Immunity
30. Example for Hapten DNP or Dinitrophenol
31. The largest lymphoid organ Spleen
32. The Antigen part which interact with paratope Epitope
33. who has explained about transplantation Medawar
34. FAB is a Fragment of antgen binding site
35. FC is a Fragment of constant region
36. antibody which found in secretions Immunoglobulin IGA
37. allergy disease Asthma
38. Antibody which participates in Allergic response IGE

### Three Marks Questions

1. What is Immunology ?
2. What are the causes of autoimmune diseases?
3. What is phagocytosis?
4. What is Natural Immunity?
5. Three major roles of antibodies?
6. Differentiate Cell mediated and Humoral Immunity
7. The major role of thymus?
8. The unique features of Acquired or Specific Immunity
9. The five types of Immunoglobulins
10. Differentiate Active and Passive Immunity
11. What are immunosuppressive drugs?
12. The functions of Spleen.
13. What are Antigens?
14. What are Haptens?.
15. Differentiate Paratope and Epitope
16. What are Interferons?
17. Differentiate Xenograft and Isograft
18. Differentiate Autograft and Allograft
19. What is anaphylaxis?
20. What are Lysozymes?
21. What are Mucosa associated lymphoid tissues?
22. What are the infectious agents?
23. What is Immunogen?
24. What are Immunoglobulins?
25. What is Hematopoiesis?
26. What is Transplantation?

27. Clones – Define
28. The disease Multiple sclerosis caused by?

### Five Marks Questions

1. What are the processes or symptoms of Homograft or Allograft rejection?
2. What are the preventive measures in clinical fields to avoid graft rejections?
3. What are the Classification of grafts?
4. Explain the Structure and functions of Immunoglobulins
5. Write neat drawing of Immunoglobulin
6. Explain the Anatomical and physiological barriers of First line defense
7. Explain the Immunodeficiency diseases
8. Explain the Genetic basis of organ transplants
9. Write short notes on Activation of Adaptive Immunity
10. Write short notes on Antibody-mediated Immunity / Humoral Immunity

### 4. MODERN GENETICS

#### One Mark Questions

1. In which prokaryote has voluminous genetical works been made Escherichia coli
2. Who discovered the double helix DNA model ? Watson and Crick
3. To obtain information about genetic characters in man which of the following helps? Pedigree analysis
4. Sickle cell anaemia is due to autosomal gene
5. Albinism is due to absence of melanin
6. Name the human disease due autosomal dominant gene huntington's chorea.
7. Idiogram means Diagrammatic representation of chromosome
8. In human chromosome karyotyping the chromosomes 4 and 5 belong to group B
9. What is the name for mobile genetic elements transposons
10. The informations stored in Protein Data Bank?
11. What is the genotype of a person with Sickle cell anemia?
12. The transfer of whole nuclei, the cells are treated with cytochalasin B and enucleated.
13. The uptake of genes by the cells in animals is called transfection.
14. About how many hereditary diseases in human beings had been identified ?
15. Where you can find Y chromosome?
16. The bacteria *Pseudomonas*, nicknamed as 'super – bug.
17. Where the X chromosomes are present?
18. The human genome composed of 30,000 (thirty thousand) genes.
19. During electrophoresis DNA of an organism is subjected to electrophoresis they migrate towards the positive electrode.
20. Barbara Meclintock discovered jumping genes.
21. SCID is also called Bubble Boy Syndrome.
22. Atomic data, computers generate **graphic images of the molecules** on high-resolution screen.
23. Dolly cloning sheep was invented by the scientist Ian Wilmut.
24. The cDNA libraries are smaller than genomic libraries and contain only DNA molecules for genes.
25. Which instrument is used to the read the DNA.
26. Which chromosome is responsible for Huntington disease?
27. Melanocytes possess the enzyme tyrosinase necessary for the synthesis of melanin from the amino acid called tyrosine.
28. The gene for the disease called ADA (Adenine deaminase) is located on chromosome 20. Severe Combined Immunodeficiency (SCID).
29. In Protein Data Bank Only three dimensional forms are used to define protein structure.
30. Agammaglobulinaemia is a recessive gene disease, where in r-globulin synthesis fails to occur.
31. The gift given by the nature to study the gene technology is plasmids.
32. The first gene was cloned in 1973 by Hebert Bayer and Stanely cohen of Stanford University,

California of USA.

33. mRNAs are probed. Researchers have identified about 60000 (Sixty thousand) different m-RNAs in human beings.
34. The folding of protein chain to form recognizable modules such as alpha helix and beta sheets represents its secondary structure .
35. DNA - Segmenting - Fragmenting
36. Karyotyping involves the culture of foetal cells found in the amniotic fluid, in vitro, in a highly nutritive solution containing phytohaemagglutinin.

### 3 Mark Question

1. What is called as Idiogram Karyogram and mention the uses of karyotyping?
2. What is called as Foreign DNA and Passenger DNA?
3. What is cloning vectors?
4. What is called as super bug and mention its uses?
5. What is theory of inheritance.
6. Explain the symptoms of Thalassemia?
7. Explain the symptoms of Huntingtons chorea?
8. Explain about human gene bank.
9. Describe about cloning.
10. Describe about Transfection.
11. Explain gene cloning and its types?
12. Define computational biology.
13. Describe DNA library?
14. Mention the languages that help in bioinformatics.
15. Describe about Protein data bank?
16. Describe about plasmids?
17. Describe about Human Genome Project?
18. Describe about differentiation?
19. What is called as transgenic organisms?
20. What is a data base in bioinformatics ?
21. What is called Nucleic acid sequence databases?
22. What is called as C-DNA library?
23. What is called as protein sequence databases?
24. What is reason for the origin of Albinism?
25. Mention about genetic diseases?
26. What is called as bubble boy syndrome and mention its uses?
27. Describe about Transfection
28. How sickle cell anemia occurs and mention its symptoms?
29. What are the application of protein sequence data base.
30. What is called as DNA segmenting?
31. What is called as Cdna?
32. What is called as Palindromic sequence?
33. What is called as recombinant dna?

### 5 mark questions

1. Describe about the chromosome types found in humans?
2. Explain about the working mechanism of recombinant DNA and its uses?
3. Explain about the Ethical Issues, Merits and Demerits of cloning?
4. Describe the scope of Bioinformatics?
5. Explain about Human Genome Project?
6. Explain applications of bioinformatics
7. Describe the uses of Genetic Engineering?
8. Describe genetically modified organisms.



**Zoology**  
**Important questions**

1. Describe karyotyping of human chromosomes and its uses?
2. Describe about genetic diseases?
3. What is called as Human Genome Project, write about its importance and uses?
4. Write about the working mechanisms of cloning?
5. Describe about Protein structure & Protein model and its uses?

**Biozoology**  
**Important questions**

1. Write any four genetic diseases?
2. Describe about chromosome mapping?
3. Explain about genetic inheritance.

**Zoology**  
**Biozoology**  
**Lesson – 5 Environmental Science**

1. Which gas is found in large numbers in Green house gas? water vapour, carbon dioxide, nitrous oxide and methane.
2. Which power is going to fulfill our future requirement? – Hydrogen power
3. In which stratosphere the ozone layer depletion was found out? – Antarctic
4. In which place of India first production of electric power from sea was started?
5. How to solve the problematic medical wastages? By burning.
6. Which bacteria is used to decompose the oil wastages? superbug-pseudomonas.
7. In warm forests which insects are responsible for pollination? – orchid bees.
8. How many hot spots have been identified to save the races of endangered and endemic species?  
25
9. Which thing present in the solar cells causes poisonous and possible carcinogen? – Cadmium.
10. The electromagnetic radiation will disrupt the DNA.
11. Which gas will disrupt the ozone layer quickly? – Chlorofluorocarbon and Hydrocarbon.
12. Which source in the world is used about 95% among the non renewable energy source – Petrol, natural gas and coal.
13. Which plant is used to break down the cyanide and reduce it to a toxic form – Gibbrella fusarium
14. Which is commonly considered as a biologist's paradise? Gulf of Mannar.
15. Due to global warming which thing is used as a source? Water vapour.
16. The permanent storage facilities for military related liquid and radioactive waste materials is? Waste lands – Land fill.
17. Give one example which is not a green house gas? Hydrogen.
18. Name one gas which reduces ozone? Hydrogen.
- 19) Which is commonly considered as a biologist's paradise- Gulf of Mannar
- 20) How many times carbon dioxide absorbs heat than nitrous oxide- 300
- 21) Cadmium, used in fabricating thin film solar cells, is both poisonous and a possible carcinogen to produce
22. Each year the earth receives from the sun an enormous total of  $5 \times 10^{20}$  k.cals of energy.
23. Percentage of fresh water available on earth -only 3%
24. How the world are losing freshwater sources due to saltwater intrusion. –Over use of under ground freshwater reservoirs often allows salt water to intrude into aquifers and affect the water table.
25. Scientists discovered an alarming increase in the level of a new gas in the year 2000- trifluoromethyl sulphur penta fluoride
26. Disposal of waste by means of incineration- Hazardous biomedical wastes

27. Marine biosphere reserve - Gulf of Mannar Biosphere Reserve

**Three mark Questions**

1. Explain population growth or demography.
2. What are the biomedical wastes?
3. Mention two biosphere reserves in Tamilnadu.
4. Explain difference between absolute poverty and relative poverty.
5. What is mean by seedling clouds?
6. What are the advantages of solar energy?
7. What are the advantages of air?
8. What is bio-diversity?
9. What is mean by biodegradation?
10. **Which gas destroys ozone layer faster?**
11. What are the effects of ozone depletion?
12. What is **carbon sequestration** ?
13. Explain Hydrogen – Source of power for future
14. What is mean by greenhouse effect
15. Explain methods of waste management.

**Ten Mark Questions**

1. What is known as energy crisis? what are the steps to be taken to solve energy crisis
2. Write an account of fresh water resources
3. “Ozone is a natural sun block” – Discuss
4. How will you manage hazardous wastes? Discuss it with current knowledge
5. Write an essay on green house gases and their impact on the environment
6. Explain global warming
7. Give an account on poverty and ints environment
8. Write notes on non hazardous waste.
9. Give a note on reasons for decline of biodiversity

**Unit 6**

1. The breeds of cattle now available
2. The synonym for sindhi is
3. Kangayam is originated from
4. Feeding jaggery along with lime water is one of the first aid measure for
5. Mating of closely related animal is called
6. The milk of the following cow is characterized by high carotene content
7. For anthrax one of the following symptom can be
8. The oldest American fowls
9. Fowl which having greenish hackle
10. The most popular and commercial breed in India is
11. Which hens are called as sitters
12. The optimum period of hatching of egg ----- days
13. The equipment used for the count the blood cells
14. The diluting fluid of RBC
15. The diluting fluid of WBC
16. Decrease number of blood count indicates
17. Increase number of blood count indicates
18. Increase number of WBC count indicates
19. Normal blood pressure of human
20. A method of examining interior of a body cavity or holo organs
21. Due to inability of the animal to assimilate calcium from the feed, leads to demineralization in bone
22. Of all the carps which is considered as a tasty fish
23. The fish which directly breathing atmospheric air
24. The fish which keeps the fertilized eggs guarded in its mouth
25. The fish which grows fast in India

### 3 Marks

1. How can you classify the cattle
  2. How will you identify the healthy cattles
  3. Symptoms of anthrax
  4. What are the control measures of cow pox
  5. What is constipation
  6. Define artificial insemination
  7. Advantages of artificial insemination
  8. List out the different types of diseases of cattle
  9. Symptoms of milk fever
  10. Write short note on selection of eggs
  11. Famous Indian breed fowls
  12. Give the different types of ponds
  13. What is brooding
  14. Uses of sphygmomanometer
  15. Uses of stethoscope
  16. What is haemocytometer
17. What is meant by CT X- Ray?
  18. What are all the advantages of Auto analyzer?
  19. What are all the disadvantage of autoanalyser?
  20. Define Endoscopy?
  21. Differentiate between sindhicow and Kangayam udder. Compare the udder of Sindhi with kangayam
  22. What is meant by Glycosuria?
  23. What is meant by outbreeding?
  24. What is meant by cross breeding?

### CHAPTER 6 10 Marks

1. List out the types of cattle breeds and explain each type with example.
2. Describe the cattle diseases and its control?
3. Describe the methods of poultry
4. What are all the factors involved in brooding?
5. How the functions of Heart are recorded in ECG or Electrocardiogram?
6. Explain the functions and uses of Computed Tomography (CT)
7. Describe Haemocytometer?

### CHAPTER 7 THEORIES OF EVOLUTION PART – A

#### Choose the correct answer

1. The book titled '*Philosophie Zoologique*' is published by Jean Baptiste de Lamarck
2. Name the German Scientist who first segregated germplasm from the somatoplasm – Weismann.
3. What is the reason for arising of gene pool? Gene mutation.
4. Who published the book "Process of organic evolution? - G.L.Stebbins
5. What is meant by overproduction?
6. The concept supported by McDougall for Neo- Lamarckian is – Learning is an acquired character.
7. What is the basics of evolution- Mutatation.
8. What is the classical example for such a polymorphism - **sickle-cell anaemia**
9. Who developed the theory genetic drift- Sewal Wright.
10. wWhat is the basics of evolution- Gene mutation.
11. The book entitled "Genetics and the Origin of species" was published by Dobzhansky

12. What is the need for arising gene pool- gene mutation.
13. Generally regular variations are caused by – recombination
14. The Population Affected by Sick Cell Anemia – American Nigro
15. Who accept the law of genetic drift – Darwin

#### PART - B

1. What are the conditions under which Hardy-Weinberg law operates?
2. Briefly describe Sewal Wright effect.
3. What is meant by bottleneck effect?
4. What is meant by gene pool?
5. Define the germ plasm theory.
6. What is meant by Speciation?
7. What is meant chromosomal aberrations?
8. What is meant by Neolamarckism?
9. What is meant by polymorphism?
10. What is meant by polyploidy?
11. Define polysomics?
12. Name two books that explain the basic concepts of evolution
14. State the law of Genetic drift.

#### PART –C

1. What is Hardy-Weinberg equilibrium? Explain? Or Describe Population genetics.
2. Explain Genetic drift or Sewal Wright effect.
3. What is Speciation? Describe the different types of Speciation.
4. Explain polymorphism?
5. Mention the objections to Darwin.
6. What is meant by Premating isolations or what are rules of interspecific crosses?

#### Microbiology extra questions

1. The body segments of tapeworm is called as – Proglottis
2. Number of Segments in tapeworm- 800 to 900
3. Embryo in the egg of tape worm is called as **Onchosphere** or **Hexacanth**.
4. The cysticercus in tape worm which is whitish in colour and oval in shape is called as 'cysticercus cellulose'.
5. Pork containing tapeworm cysticerci is described as 'Measly pork'
6. Taenia infections are treated by antihelminthic drugs
7. How many lips in the anterior end of the Ascaris mouth- Three.
8. The number of eggs per day lay by mature female Ascaris worm is two lakhs (2,00,000)
9. The eggs of Ascaris can live for - five to six years
10. The first mouth is called **rhabditi form** larva

#### 3 mark questions

1. What are all the body parts of tapeworm?
2. What are all the segments of tapeworm?
3. What is meant by Strobilization?
4. What is meant by Measly pork?
5. What are the larval stages of tapeworm?
6. What are the diseases caused by tapeworm?
7. What are the hosts of tapeworm?
8. How to prevent the infection of tapeworm?
9. What is meant by **rhabditi form** larva?
10. What is meant by Exogenous phase?
11. What are the diseases caused by?
12. List out the things in which Ascaris egg is present ?

#### 5 marks

1. Write about the scolex or Head of Tapeworm.
2. Differentiate between male and female Ascaris.

3. Write about the segments (Strobila) of tapeworm.
4. How you prevent the ascarsis infection?

**10 mark**

1. Structure of virus & its cultivation?
2. Explain bacterial diseases?
3. Explain life cycle of tape worm.
4. Explain Ascarsis life cycle.
5. Explain pathogenesis, prevention of AIDS.\
6. Explain Replication of AIDS.

**10 Marks**

1. Explain the life cycle of tape worm.
2. Explain the life cycle of ascaris
3. Explain the viral genetics and its structure.

### **APICULTURE**

1. Name of familiarly cultivating honey hives in India
2. Write the name of substances used for separation of honey from honeycomb
3. Which honey bee involved in the production of honey
4. Substances used in industries for the production of medicines and aromatic components
5. Royal jelly was produced by
6. Name of treatment by using honey bee products
7. Name any one of honey bee product used for apitherapy
8. Substances present in honey basket
9. Number of workers bee present in single honey comb
10. Life span of queen bee
11. Name of sterile female honey bee
12. Bees which having sting
13. How many compartments are present in honey comb now a days
14. What place taken by Tamil nadu in apiculture

**3 Marks**

1. What is apiculture
2. Give any two difference between Apis florum and Apis indica
3. What is mean by swarm
4. What is mean by waggle dance
5. What is mean by apitherapy
6. Use of medicinal value for honey toxin and explain its method of treatment.
7. What is mean by royal jelly
8. Function of working honey bee
9. Uses of propolis
10. What are enemies of honey bee

**5 Marks**

1. What are the uses of apiculture?
2. Equipments used during honey collection
3. Chemical composition of honey and its uses

4. Uses of honey bee wax
5. What is the disease infects honey bee

### SERICULTURE

1. Place of central Muga , Eri research and training institute
2. Bombyx Mori larva used for
3. How many eggs lays by female silk moth
4. Superior quality of silk
5. Colour of Tasar silk
6. What is the other name of silk
7. Muscardine disease in silkworm larva is caused by
8. which is caused by pebrine disease in silkworm
9. high level production of Tasar silk in which place

**3 Marks**

1. What is mean by sericulture?
2. Define silk gland
3. What is mean by sericin
4. Define fibroin
5. Three phases of sericulture
6. Uses of silk
7. What are the enemies of silkworm?
8. Symptoms of pebrine disease
9. What is the silkworm research centre in India?

**5 Marks**

1. Define types of silk
2. Production of mulberry leaves

**3 Marks**

1. Life cycle of Bombyk mori
2. Preventive measures of Mulberry worm breeding
3. Disease of Mulberry worms

### AQUA CULTURE One Mark Question

1. Largest Aquatic culture country – china
2. Important Cold – water sport fishes
3. A great deal of work as been done for processing this by-products into feather-meal
4. Ratio of Vandal soil, sand, clay in construction of lake sore
5. Depth of fish culture pond
6. Temperature of fish culture pond
7. What is the acidic pH of fish culture pond
8. Hardness of water depends on
9. Hardness of fish culture pond
10. Tastiest fish is
11. The female fish which hatches egg on its mouth
12. What is instrument related to pituitary
13. Age of in vitro fertilization in fish
14. Temperature of Indian Mackerel

15. Ornamental fish for hobbies and export
16. Calm herbiaquoes fish
17. Fish belongs to Thailand
18. The Chinese originated, late 11<sup>th</sup> century domesticated fish
19. \_\_\_\_\_ is grown using net made up of coconut fiber or nylon
20. Pear oyster
21. The fish which is grown in salinity having percentage of 3 – 29
22. In India, the year and place in which the first cultivation of pearl oyster
23. Marine algae sediments in Tamil nadu
24. The medicinal food for 21st century
25. Number of Marine ornamental fishes in Lakshadweep is
26. Number of Marine ornamental fishes in Andaman and nicobar island is
27. Another name for seabass fish
28. Tamil name for seabass fish
29. Organism which is grown on high salinity
30. Female Fish which is imported from Central America which stores sperm in their body and giving birth to young ones

### 3 Marks

1. Define aqua culture.
2. What are the good qualities of water for fish farming
3. Define pisciculture.
4. Define mariculture
5. What is bund?
6. What are the characteristics of ponds?
7. What are pearl spots?
8. Define bow sat?
9. What are edible spots & pearl spots?
10. Give examples of aqua culture.
11. What is a bent?
12. Give examples for fishes which is grown in high salt concentration.
13. Expand: TNSF, TNAU, CMFRI, CIBA, AEI, CIFA. MPEDA, ACC, ICFA.
14. Give the role of edible sprouts.
15. Give the water quality involves the regulation of pond system
16. Which is the nutritive food in 21<sup>st</sup> century?
17. Give the examples for larvae killer fish.
18. Give the economic importance of marine algae.
19. Define synchronized algae culture.
20. Define bunds.
21. Define induced reproduction.
22. Give the four steps of induced reproduction.
23. What is HEPA?
24. Define mono sexual fish farming
25. What is uni species fish farming.
26. What is cycling fish farming.
27. Give the role of play fish.
28. Explain aquarium
29. Give the control measures of parasitic infection in fish

### 5 Marks

1. Explain the characters of cultivable fish in ponds.
2. Explain poly cultivation methods of fish.
3. Pond construction –explain.
4. Give the characteristics of *Catla catla*

5. Give the characteristics of *Labeo rohita*
6. Give the characteristics of tilapia
7. Give the characteristics and reproduction *Macrobrachium rosenbergii*
8. Give a note on disease caused in fishes.
9. Give a note pearl spouts.
10. Explain the cultivation process of marine algae.
11. Give the drawbacks of fish farming
12. Explain seabass
13. Give the maintains of pond system
14. Explain the nutritive system of fresh water aquarium
15. Give the role of fish farming in India.

**10 Marks**

1. Explain the induced reproduction in fishes.
2. Explain characters of cultivable fish in ponds.
3. Explain the construction of good aquarium.
4. Explain the ponds systems in detail.
5. Comment on the fresh water aquatic fishes.
6. Explain the aquaculture in detail.
7. Explain the mono cultivation method of fish.
8. Give the role of pond construction system.
9. Discuss different types of pond system

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