

Attempt any five questions. Write answer in 150-200 words. Each question carries 16 marks. Answer each question on separate page, after writing Question Number.

- 1. Define Mechanism of PCR and its utility in Biological sciences**
- 2. The configuration of Human Genome and its importance in science**
- 3. Mechanism of Active and Passive vaccination**
- 4. Importance of Genetic Polymorphisms**
- 5. Describe various phases of cell division in Meiosis**
- 6. Types of Mutations and its clinical importance in diseases**
- 7. Mode of transmission of Hepatitis B virus**
- 8. Mendel law of genetic inheritance and its application**
- 9. Ozone layer destruction and its importance in global warming**
- 10. Green revolution and its role in Indian economy**

(To be filled up by the candidate by **blue/black ball-point pen**)

Roll No.

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Roll No. (Write the digits in words)

Serial No. of OMR Answer Sheet

Day and Date

(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only **blue/black ball-point pen** in the space above and on both sides of the **Answer Sheet**.)

1. Within 10 minutes of the issue of the Question Booklet, Please ensure that you have got the correct booklet and it contains all the pages in correct sequence and no page/question is missing. In case of faulty Question Booklet, bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope*.
3. *A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided.*
4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
5. *On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.*
6. *No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and Roll No. and OMR sheet No. on the Question Booklet.*
7. *Any changes in the aforesaid-entries is to be verified by the invigilator, otherwise it will be taken as unfair means.*
8. *This Booklet contains 40 multiple choice questions followed by 10 short answer questions. For each MCQ, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by pen as mentioned in the guidelines given on the first page of the Answer Sheet. For answering any five short Answer Questions use five Blank pages attached at the end of this Question Booklet.*
9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
10. *Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero marks).*
11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
12. Deposit both OMR Answer Sheet and Question Booklet at the end of the Test.
13. You are not permitted to leave the Examination Hall until the end of the Test.
14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

1. Klinefelter syndrome has the following genetic make up :
 - (1) 44 autosomes +xxy
 - (2) 44 autosomes + xo
 - (3) 45 autosomes + xx
 - (4) 45 autosomes + xy

2. Which of the following statement is incorrect related to 'Sickle cell Anaemia'
 - (1) It is a autosomal recessive linked disorder
 - (2) It is due to a single base mutation of B globulin gene.
 - (3) It is inherited in whose one of the parent is carrier and other normal
 - (4) It changes shape of RBC from Round to sickle

3. Which property does not belong to cytokines :
 - (1) Pleiotropy
 - (2) Redundancy
 - (3) Synergy
 - (4) Specificity

4. What is the most likely organism in Patient with common variable immunodeficiency presenting with pneumonia :
 - (1) Aspergillus
 - (2) Pneumococcus
 - (3) Mycoplasma
 - (4) CMV

5. Which of the following is a mechanical barrier to conception :
 - (1) Condom
 - (2) Abortion
 - (3) Cu T
 - (4) oral pill

6. By studying analogous structures we look for :
- (1) similarities in organ structure
 - (2) similarities in cell make-up
 - (3) similarities in appearance and function but different in structure
 - (4) similarities in appearance that differences in functions
7. Which prediction from the fossil record is in agreement with the theory of evolution ?
- (1) Unicellular organisms are first found in strata above
 - (2) multicellular fossils.
 - (3) Land animals appear earlier than Land plants in the fossil record. Reptiles appear earlier an insects in the fossil record.
 - (4) Prokaryote fossils appear earlier than eukaryote fossils.
8. Ductless glands are known as :
- | | |
|----------------------|----------------------|
| (1) Digestive Glands | (2) Milk Glands |
| (3) Endocrine Glands | (4) Exocrine Glands, |
9. Virus is chemically composed of :
- (1) Starch and Protein
 - (2) Fat and nucleic acid
 - (3) D.N.A. and lipids
 - (4) Protein and Nucleic Acid
10. Thyroxin hormone is secreted by :
- | | |
|-------------|---------------|
| (1) Thyroid | (2) Pituitary |
| (3) Adrenal | (4) Ovary |

Q11. Each unit membrane of cell organelles is made up of

1. Lipid and protein
2. Lipid and sugar
3. Protein and sugar
4. Histone and sugar

Q.12. Iodine is obtained from

1. Bryophyta
2. Bacteria
3. Fungi
4. Algae

Q.13. When a man is the part of Biotic community ?

1. Always
2. Only when lives in big cities
3. Only when lives in forest
4. Never

Q. 14 .Where would you expect to find kuffer cells

1. Brain
2. Pituitary gland
3. Stomach
4. Liver

Q.15. Which of the following is a bacterial disease

1. Measles
2. Small Pox
3. Rabies
4. Tuberculosis

Q.16. Amoebic Dysentery is caused by

1. Amoeba proteus
2. Entamoeba histolytica
3. Plasmodium vivax
4. Taenia solium

Q.17. Male Ascaris is differentiated by

1. Curved posterior end in male
2. Colour of male
3. Length of Male
- 4.. Presence of Anus

Q.18. The disease not transmitted by housefly is

1. Typhoid
2. Cholera
3. Yellow Fever
4. Dysentery

Q.19. The metabolic rate in mammals is controlled by

1. Pancreas
2. Liver
3. Thyroid
4. Pituitary

Q.20. The Dissociation curve is associated with

1. Oxygen
2. Carbon Dioxide
3. Oxyhemoglobin
4. Carbonic anhydrase

Q.21. Vitamin which is destroyed on heating is

1. Vitamin A
2. Vitamin C
3. Vitamin B
4. Vitamin D

Q.22. One gene one enzyme theory was given by

1. Beadle and Tatum
2. Beadle and Morgan
3. Watson and Crick
4. Morgan And Muller

Q. 23. *Helicobacter Pylori* is associated with

1. Peptic Ulcer
2. Ulcerative colitis
3. Cirrhosis of Liver
4. Acute Diarrhoea

Q.24. Trypsinogen is activated by

1. Secretin
2. Cholecystokinin
3. Enterokinase
4. Enterogastrone

Q. 25. Bacteriophages are made up of

1. Proteins only
2. Nucleoprotein
3. DNA only
4. Protein and lipid

Q.26. Which of the following a growth inhibitor

1. Gibberellic acid
2. Auxin
3. Cytokinin
4. Ethylene

Q.27. The longest cell in the vertebrate body is

1. Neuron
2. Smooth muscle
3. Voluntary muscle fibre
4. sperm

Q.28. The largest virus is of

1. Hydrophobia
2. Pox virus
3. Jaundice
4. Herpes

Q29. Esophagus is devoid of

1. Submucosa
2. Circular Muscle layer
3. Longitudinal Muscle Layer
4. Serosa

Q30. Which of the following is not a premalignant condition for Carcinoma Esophagus

1. Achlasia Cardia
2. Corrosive injury of esophagus
3. Tylosis
4. Zenker's diverticulum

Q31. Final pathway in Acid Production is mediated by

1. H+K+ ATPase
2. Na+H+ ATPase
3. H+Cl-ATPase
4. Pepsinogen

Q32. Helicobacter Pylori colonises in which of the part of stomach

1. Antrum
2. Cardia
3. Body
4. Incisura angularis

Q33. Invasive test for Helicobacter Pylori includes following Except

1. RUT
2. Histopathology
3. Microbial Culture
4. Breadth Hydrogen Tests

Q34. For Eradication pf Helicobacter Pylori which of the following therapy is appropriate

1. Dual Tharapy
2. Triple Therapy
3. Quadriple therapy
4. Monotherapy

Q35. Which is the following test is used to look malabsorption of sugar?

1. D-Xylose test
2. Schilling Test
3. Sudan III staining
4. RISA

Q36. Following test is being used to diagnose Celiac Disease

1. Tissue Transglutamase
2. Hydrogen Breath Test
3. Small intestinal Biospy
4. Schilling test

Q37. Diagnosis of SIBO is made by

1. Bacterial colony count in colon
2. Breath Tests
3. Small Bowel Enema
4. Intrinsic Factor

Q.38 Which is not a true statement regarding ulcerative colitis

1. It is caused by Mycobacterium Tuberculosis
2. Idiopathic immune disease
3. Genetic prone disease
4. Confirmatory dx by histology

Q.39 The aetiological agent of Bacillary dysentery is

1. Shigella Species
2. Campylobacter species
3. Yersinia Enterocolitica
4. Enterotoxigenic E.coli

Q.40. The diagnosis of Giardia lamblia is done by

1. Fresh Stool Examination
2. Serological Assay
3. RUT
4. Duodenal aspirate fluid examination.