### Paper Code ----

**Notes:** You have four choices for each objective type question as A, B, C, and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

<table>
<thead>
<tr>
<th>(D)</th>
<th>(C)</th>
<th>(B)</th>
<th>(A)</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphysema</td>
<td>Bronchitis</td>
<td>Pneumonia</td>
<td>Asthma</td>
<td>1</td>
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<tr>
<td><strong>Which of the following respiratory disorders is caused by bacteria?</strong></td>
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<tr>
<td>Algae</td>
<td>Fruits</td>
<td>Mosses</td>
<td>Xerophytes</td>
<td>2</td>
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<td><strong>Plants which grow in arid environment are called</strong></td>
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<tr>
<td>Reading</td>
<td>Walking</td>
<td>Touching hot object</td>
<td>Drinking water</td>
<td>3</td>
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<td><strong>In which of the following actions impulses are not carried to the brain</strong></td>
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<td>Goiter</td>
<td>Diabetes</td>
<td>Dwarfism</td>
<td>Acromegaly</td>
<td>4</td>
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<tr>
<td><strong>Lack of hormone somatotrophin causes disease</strong></td>
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<tr>
<td>Bone marrow</td>
<td>Cartilage</td>
<td>Ligaments</td>
<td>Tendons</td>
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<td><strong>Which of the following tissues join the muscles to the bones</strong></td>
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<td>Fragmentation</td>
<td>Binary fission</td>
<td>Budding</td>
<td>Regeneration</td>
<td>6</td>
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<td><strong>In which of the following asexual reproduction methods an organism divides into two</strong></td>
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<td>Two tube nuclei and two sperms</td>
<td>Two tube nuclei and one sperm</td>
<td>Tube nucleus and one sperms</td>
<td>Tube nucleus and two sperms</td>
<td>7</td>
</tr>
<tr>
<td><strong>Which of the following structures present in the pollen tube after pollination</strong></td>
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<td><strong>If the genotype of a plant is Rr Yy, how many types of gamets can be formed?</strong></td>
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<tr>
<td>Translation</td>
<td>Transcription</td>
<td>Transpiration</td>
<td>Transduction</td>
<td>9</td>
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<tr>
<td><strong>Messenger RNA is produced by the process</strong></td>
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<tr>
<td>Antamoeba</td>
<td>Ascaris</td>
<td>Cuscuta</td>
<td>Plasmodium</td>
<td>10</td>
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<tr>
<td><strong>An example of exoparasite is</strong></td>
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<tr>
<td>Interferon</td>
<td>Tubulin</td>
<td>Albumin</td>
<td>Insulin</td>
<td>11</td>
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<td><strong>Which of the following is an antiviral protein</strong></td>
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</tbody>
</table>
Cephalosporins is a group of antibiotics. Which part of bacterial cell is destroyed by these antibiotics.

Part -------------------------- I

2. Attempt any Six parts from the followings:-

(i) Write four symptoms of respiratory disorder
   Amphysema.

(ii) What is trachea? Describe its sructure.

(iii) How passive smoking can be injurious to health?

(iv) Differentiate between osmoregulation and
   thermoregulation.

(v) How hydrophytes get rid of excess of water from
   their body? Give one example.

(vi) What is lithotripsy method of removing stones from
   kidneys?

(vii) How ears maintain the balance of body?

(viii) From where thyroxin hormone is secreted and what
   is its function?

(ix) What is paralysis? Write its two causes.

3. Attempt any Five parts from the followings:-

(i) Write the names of bones of human appendicular
   skeleton.

(ii) What are tendons? What is their role in the body?

(iii) How osteo arthritis is different from rheumatoid
   arthritis?

(iv) What are endospores? Write names of two types of
   bacteria which forms such spores.

(v) How new plants are produced by grafting? Give one
   example.

(vi) Define alleles. Give one example.

(vii) What will genotype and phenotype of plants
   produced as a result of cross between a true breed
   round seeded plant and true breed wrinkled seeded
   plant?

(viii) Describe two main sources of variations in
   population.

4. Attempt any Five parts from the followings:-

(i) Explain the limits of biosphere.

(ii) Draw a diagram to represent food web and write
   names of organisms in it.
(iii) Differentiate between Ammonification and Nitrification.

(iv) Define rmentation. Write names of its two types.

(v) By which bacteria formic acid is produced? Write two uses of formic acid.

(vi) What is recombinant D.N.A. and how it is produced?

(vii) Why vaccines are used? Write names of two diseases for which vaccines are used.

(viii) What is Marijuana? Describe its two effects.

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Part ------------------------------ II

Attempt any Three Questions (7 x 3 = 21)

5. (a) Explain two methods by which plants exchange their gases. [4]
(b) How halophytes maintain the balance of salts in their body? [3]

6. (a) Describe the structure of neuron. [4]
(b) Explain three types of Arthritis. [3]

7. (a) Describe the changes which take place from pollination to the formation of embryo in a flowering plant. [4]
(b) Explain the process of spermatogenesis in animals. [3]

8. (a) Explain Mendel’s law of independent assortment with an example. [4]
(b) Compare Parasitism to that of Mutualism. Give one example of each. [3]

9. (a) What is single cell protein. how it is produced and what is its importance? [4]
(b) What are antibiotics? Explain its two types. [3]
10. (a) Write the procedure for the experiment showing presence of carbon dioxide in the exhaled air. [3]

(b) Which compound is formed when carbon dioxide is added to lime water. [2]

(ii) (a) Draw a labelled diagram for Binary fission in Amoeba. [3]

(b) Differentiate between Budding and Binary fission. [2]

(iii) (a) Write the procedure of stem cutting in rose plant. [3]

(b) Name two such plants (except rose) in which vegetative propagation is carried out by stem cutting. [2]