

Instructions :

- (i) All questions are compulsory.
- (ii) There are two sections in question paper Section-A and Section-B.
- (iii) In Section-A Q.Nos. 1 to 4 are objective type which contain fill in the blanks, multiple choice, one word/sentence and match the column. Each question carries 5 marks.
- (iv) In Section - B there are Q. Nos. 5 to 20 and Internal options are given in each question.
- (v) Q.Nos.5 to 8 are very short answer type questions. Each question carries 2 marks. Write answer of these questions approximately in 30 words each.
- (vi) Q.Nos. 9 to 12 are short answer type questions. Each carries 3 marks. Write answer of these questions approximately in 75 words only.
- (vii) Q.Nos. 13 to 17 are long answer type questions. Each question carries 4 marks. Write answer of these questions approximately in 120 words only.
- (viii) Q.Nos. 18 to 20 are long answer type questions. Each question carries 5 marks. Write answer of these questions approximately in 150 words.
- (ix) Start answering the objective type question from first page of the answer sheet. <http://www.mpboardonline.com>
- (x) Draw neat and labelled diagrams wherever necessary.

SECTION-A (Objective type questions)

- Q.1 Fill in the blanks : 5
- (i) Food reaches to stomach from oesophagus by _____ movement.
 - (ii) Rate of transpiration is measured by _____
 - (iii) _____ discovered photoperiodism.
 - (iv) Lichen is an example of _____
 - (v) Population _____ with time and place.
- Q.2. Choose the correct options : 5
- (1) The water potential and osmotic potential of pure water are

(a) 100 and zero	(b) Zero and zero
(c) 100 and 100	(d) Zero and 100

- (2) Purkinje fibres are present in-
 (a) Brain (b) Blood
 (c) Lungs (d) Heart
- (3) The hormone which is responsible for senescence
 (a) Abscisic acid (b) Auxin
 (c) Gibberellins (d) Cytokinin
- (4) Pyramid of energy is always-
 (a) Straight
 (b) Inverted
 (c) First straight then inverted
 (d) Oval
- (5) A sexually transmitted disease is
 (a) AIDS (b) Haemophilia
 (c) Asthma (d) Myasthenia gravis

Q.3 Write the answers in one word/sentence 5

- (1) _____ is chief component of chlorophyll.
 (2) _____ is the smallest bone of the human body.
 (3) Name a partial root parasite plant.
 (4) Write botanical name of maize.
 (5) Define zero population growth.

Q.4 Match the columns : 5

- | | |
|-----------------|-------------------------|
| (a) PAN | (1) Blood clotting |
| (b) Vitamin K | (2) Growth Hormone |
| (c) Acromegaly | (3) Secondary pollutant |
| (d) Decomposers | (4) Antigen substance |
| (e) Interferons | (5) AIDS |
| | (6) Actinomycetes |
| | (7) Antigen |

SECTION - B (Very short answer type questions)

Q.5 Write two differences between inspiration and expiration. 2

(Or) How does muscular fatigue occur?

Q.6 What is endosperm? 2

(Or) Write definition of Asexual reproduction.

Q.7 What is Placenta? 2

(Or) What is Test Tube Baby?

Q.8 Write any two differences between food chain and food web. 2

(Or) What is Biological Oxygen Demand?

(Short Answer Type Questions)

- Q.9 Define the following
- (i) Guttation
 - (ii) Plasmolysis
 - (iii) Diffusion Pressure Deficit (DPD)
- (Or) Write one physiological role of each of the following elements in plants :
- (i) Phosphorus
 - (ii) Potassium
 - (iii) Calcium
- Q.10 Name any three photosynthesis pigments. 3
- (Or) Write any three differences between fermentation and anaerobic respiration.
- Q.11 Define the following 3
- (i) Population density
 - (ii) Sex ratio
 - (iii) Death rate
- (Or) Describe briefly the three steps of Pranayam.
- Q.12 Write any three significance of Tissue Culture. 3
- (Or) Write any three applications of biotechnology in agriculture.

(Long answer type questions)

- Q.13 Draw well labelled diagram of L.S. of Human Kidney. 4
- (Or) Draw the well labelled diagram of internal structure of Human Heart.
- Q.14 Write short note on the following : 4
- (i) Bile
 - (ii) Dental formula
- (Or) Describe briefly any four moveable joints with examples.
- Q.15 Write four differences between spermatogenesis and oogenesis. 4
- (Or) Write any four physiological functions of Gibberellins.
- Q.16 Explain nitrogen cycle with the help of labelled diagram. 4
- (Or) What is noise pollution? Write sources and harmful effect of noise pollution.
- Q.17 Explain any four reasons of intoxicant addiction in youths. 4
- (Or) Describe about any two biofuel producing plants.

(Long answer type questions)

- Q.18 Draw a line diagram to show the Krebs cycle and calculate the number of ATP. 5
- (Or) Explain any five factors influencing photosynthesis.
- Q.19 Describe the structure and function of Adrenal gland. 5
- (Or) Explain the mechanism of absorption of food.
- Q.20 Explain the importance of forest. Describe the broad outline of forest conservation. 5
- (Or) Describe any five stages of Hydrosere.

