

SECTION-A

*(Attempt **all** questions from this Section)***Question 1**

[15]

Select the correct answers to the questions from the given options.

- (i) The number of nuclei in an embryo sac is
 - a) 2
 - b) 4
 - c) 6
 - d) 8
- (ii) Which of the following condition is not necessary for germination of seed
 - a) Temperature
 - b) carbondioxide
 - c) oxygen
 - d) water.
- (iii) The tissue that connect bones to muscle
 - a) Ligament
 - b) Lymph
 - c) Blood
 - d) cartilage
- (iv) In artificial pollination emasculation is done to avoid:
 - a) Autogamy
 - b) Geitonogamy
 - c) allogamy
 - d) Herkogamy
- (v) This is not a product of anaerobic respiration in plants:
 - a) ATP
 - b) Carbon dioxide
 - c) Ethyl alcohol
 - d) Oxygen
- (vi) Anaerobic respiration is also called as:
 - a) Leavening
 - b) Oxybiotic
 - c) Fermentation
 - d) Composting
- (vii) The organelle in which protein synthesis takes place in cell
 - a) Golgi apparatus
 - b) Mitochondria
 - c) Ribosome
 - d) centrosome
- (viii) This bacteria found in root nodules of leguminous plants
 - a) Pseudomonas
 - b) Azotobacter
 - c) Rhizobium
 - d) E.coli
- (ix) A biological process by which a new gene can be introduced in the body of an organism is called as
 - a) Vaccination
 - b) Genetic engineering
 - c) injection
 - d) bioweapon
- (x) The large and colourful leaf like structure of Bougainvillea flower are
 - a) Petal
 - b) sepal
 - c) petaloid
 - d) bract
- (xi) One of the disadvantages of self-pollination is :
 - a) It is uneconomical for the plant
 - b) Does not yield new varieties
 - c) wastage of pollens
 - d) It is not always certain
- (xii) Which of the following is not a characteristic of cardiac muscles
 - a) Spindle shaped cells
 - b) Self stimulation
 - c) Branched fibres
 - d) Presence of striation

- (xiii) An example of monocot endospermic seed is:
- a) Mango
 - b) Poppy
 - c) Cereals
 - d) Orchids
- (xiv) Annual rings of plant are the number of
- a) Phloem layer
 - b) Internodes
 - c) xylem layer
 - d) epidermal cells
- (xv) Radicle gives rise to:
- a) Roots
 - b) Root cap
 - c) Root hairs
 - d) leaves

Question 2

(i) **Name the following.**

- (a) Cell organelle where kreb's cycle take place.
- (b) A free living nitrogen fixing bacteria.
- (c) A minute pore through which water enter into the seed.
- (d) The first ever antibiotic.
- (e) An example of a vaccine containing live weakened germ.

(ii) **Fill in the blanks with appropriate word.**

[5]

Sometime certain parts of the plant may temporarily respire even in the absence of oxygen. In this type of respiration the(a) -----molecule is incompletely broken down into (b)-----and(c) ----- .This type of respiration is called (d)-----Some organisms like(e) ----- respire normally in this method.

(iii) **Choose the odd one out and write the category of the rest.**

[5]

- (a) Antivenine, Streptomycin, Penicillin, Erythromycin
- (b) Areolar, Ligaments, Adipose, bone
- (c) Exine, intine, sperm nuclei, tube nucleus
- (d) Cholera, tuberculosis, blackrot, tetanus
- (e) Calyx, corolla, androecium, thalamus.

(iv) Match the following and write the correct paired words together in your answer sheet.

A	B
a) Cell wall	i) Secretion of the cell
b) Mitochondria	ii) cellulose
c) Chromosome	iii) contain pigments
d) Plastid	iv) production of ATP
e) Golgi apparatus	v) Hereditary material
	vi) synthesis of protein.

(v) **State one function each of:.**

[5]

- (a) Adipose tissue
- (b) Ciliated epithelium
- (c) Endosperm
- (d) Collenchymas
- (e) lenticel

SECTION-B

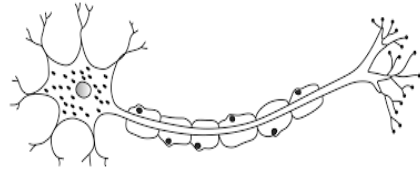
(Attempt **Any Four** questions from this Section)

Question 3

- (i) Define placentation. [1]
- (ii) Differentiate between epigeal and hypogeal germination(two points).Give one example of each type. [2]
- (iii) Write one structural and one functional difference between cartilage and bone. [2]
- (iv) Name the components of xylem tissue. How is it functionally different from phloem tissue? [2]
- (v) Draw an ovule and label any four parts in it. Define fertilization. [3]

Question 4

- (i) What do you mean by staminate flower ? [1]
- (ii) Write the balanced equation for aerobic respiration in plants. What happens to the energy liberated? [2]
- (iii) Write down two disadvantages of cross pollination. [2]
- (iv) What are vaccines? Name any two vaccines. [2]
- (v) Identify the cell.Redraw the cell and label 6 parts. [2]



Question 5

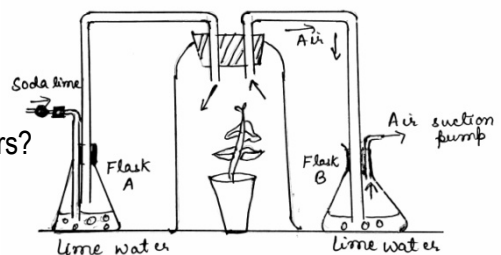
- (i) Write the location of thalamus. [1]
- (ii) What is dichogamy? In what way is it helpful to a plant? [2]
- (iii) It is usually difficult to demonstrate respiration in green plants. Give reason. [2]
- (iv) Write two characteristics of a good antibiotic. Name two antibiotics and their source organ [2]
- (v) Draw a monocot seed and label any four parts in it. How is it different from a bean seed? [3]

Question 6

- (i) Name the kind of tissue found in inner lining of small intestine. [1]
- (ii) What are the two events of fertilization? [2]
- (iii) Differentiate between the appearance of an insect pollinated flower and a wind pollinated flower (two points). [2]
- Write the specific biological terms used for pollination in each of these flowers. [2]
- (iv) What are diadelphous flower? Give one example of such flower. [2]
- (v) Given alongside is a diagram of apparatus for conducting a certain experiment based on a biological process. [3]

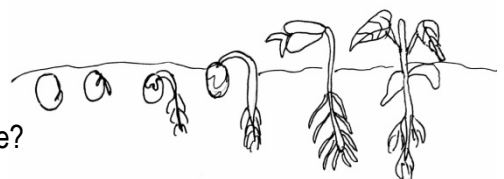
Study the diagram and answer the questions below:

- a) Write the aim of the experiment
- b) Why do we need to conduct the experiment in dark?
- c) What changes will you observe in flask A and B after a few hours?



Question 7

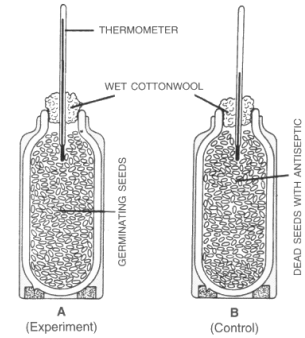
- (i) What is vivipary? Give one example. [1]
- (ii) Who discovered the first antibiotic? Write two uses of antibiotic besides curing the diseases. [2]
- (iii) Describe two industrial applications of bacteria. [2]
- (iv) Define the terms nitrification and denitrification. Name one bacteria involved in each process. [2]
- (v) Given alongside is a diagram of a seed showing certain type of germination? Study the same and answer the following questions [3]
- a) Name the type of germination shown here.
- b) What grow faster in this case - the hypocotyl or epicotyl?
- c) Which part of seed forms the first leaf of the plant in given case?



Question 8

- (i) Define serum. [1]
- (ii) Mention two ways citing examples in which bacteria are harmful to humans. [2]
- (iii) Write down the scientific name of a most common edible mushroom. Describe the nutritive value of mushroom. [2]
- (iv) Respiration is considered as the opposite of photosynthesis. Give reason. [2]
- (v) Given alongside is a diagram of apparatus for conducting a certain experiment based on a biological process. Study the diagram and answer the questions below [3]

- a) Why set up B is called as control set up?
- b) Why was formalin added to the killed seed in flask B.
- c) Explain why rise of temperature takes place in flask A ?



*****ALL THE BEST *****