

Section - I

Note : i) All Questions are compulsory

ii) Choose the most suitable answer from the given four alternatives and write the option code and the corresponding answer

- 1) "The bird of paradise flower" refers to
(a) *Musa paradisiaca* (b) *Sterlitzia reginae* (c) *Ravenala madagascariensis* (d) *Heliconia sp*
- 2) Lateral roots originate from _____
(a) Endodermis (b) Epidermis (c) Pericycle (d) Cortex
- 3) Haploid set of chromosome in *Ophioglossum* is _____
(a) 631 (b) 24 (c) 40 (d) 5
- 4) Powdered seeds of _____ are used instead of coffee:
(a) *Panax ginseng* (b) *Ilex paraguriensis* (c) *Papaver somniferum* (d) *Cola nitida*
- 5) The enzyme DNA ligase was discovered in the year _____
(a) 1942 (b) 1966 (c) 1950 (d) 1970
- 6) Genomes of two incompatible plants A and B can be hybridised through:
(a) Plant tissue culture (b) Protoplasmic fusion (c) Gene cloning (d) Bio remediation
- 7) The sugar present in ATP has:
(a) 5 carbon atom (b) 6 carbon atom (c) 4 carbon atom (d) 7 carbon atom
- 8) The stipules are modified into a pair of spines in _____
(a) *Euphorbia tirucalli* (b) *Euphorbia Pulcherrima* (c) *Euphorbia antiquorum* (d) *Euphorbia splendens*
- 9) Assertion (A): The term 'oxytocin' refers to rapid birth.
Reason (R): It shortens the gestation period.
(a) (A) is correct; (R) is correct. (b) (A) is wrong; (R) is correct. (c) (A) is correct; (R) also correct, but (R) does not explain (A).
(d) (A) is correct; (R) is wrong
- 10) The normal blood glucose level during fasting is:
(a) 80-200 mg/dl (b) 100-150 mg/dl (c) 70-110 mg/dl (d) 200-250 mg/dl
- 11) Who discovered a system for Antiseptic surgery?
(a) Louis Paster (b) Robert Koch (c) Joseph Lister (d) Darwin
- 12) Identify true and false statements from the following.
(i) B lymphocytes can process an antigen.
(ii) T lymphocytes get immune competence at thymus gland.
(iii) Cortex zone of lymph node acts a thymus dependent area.
(iv) Immune serum is having high antigen level due to infection.
(a) (i)-True (ii)-False (iii)-True (iv)-False (b) (i)-False (ii)-True (iii)-False (iv)-True (c) (i)-False (ii)-True (iii)-True (iv)-True
(d) (i)-True (ii)-True (iii)-False (iv)-False
- 13) Who discovered the double stranded helix DNA model?
(a) H.G.Khorana (b) Mendel (c) T.H.Morgan (d) Watson and Crick
- 14) A person, who is suffering from Govt, may also suffer from?
(a) Poly urea (b) Poly dipsia (c) Kidney stone (d) Gall stone
- 15) The fatal disease caused by an autosomal dominant gene in human is:
(a) Thalassemia (b) Huntington's chorea (c) Albinism (d) Severe combined immuno deficiency

16) Write the correct pair of plasma components:

(A) Hormones	(i) Building blocks
(B) CO ₂	(ii) Blood clotting
(C) Amino acid	(iii) Body function
(D) Fibrinogen	(iv) Metabolic wastes

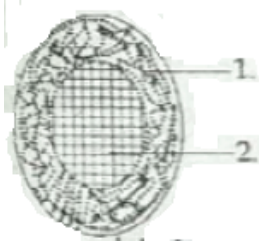
(a)	(b)	(c)	(d)
A B C D	A B C D	A B C D	A B C D
(i)(iv)(iii)(ii)	(iii)(iv)(i)(ii)	(iv)(i)(iii)(ii)	(ii)(iv)(i)(iii)

Section - II

12 x 2 = 24

II. Answer any eight questions:

- 17) Write the systematic position of Solanaceae.
- 18) What are dimorphic chloroplasts?
- 19) Identify the given Vascular bundle and label the parts.



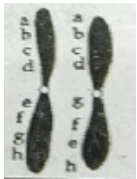
- 20) Define photoperiodism.
- 21) Write the composition of Bordeaux mixture.
- 22) Losses during storage and transport of tomatoes can be as high as 80%, which is mainly due to biological activities? How can we prevent it?
- 23) Draw the structure of the human ovum and label the parts.
- 24) What are the symptoms of Rabies?
- 25) R.Briggs and T.King developed cloned frog. Dr.Ian Wilmut produced cloned sheep. Write one similarity and one difference between these two techniques.
- 26) What is Bio-diversity?
- 27) What are the disadvantages of an autoanalyser?
- 28) A bunch of 20 idiots find our main land is not suitable for their living. So they migrate to one of the islands of Nicobar, there is no human beings. After hundred years they emerge as moderately high population. But still they are idiots. This story represents a concept of evolution. Define that.

Section - III

10 x 3 = 30

III. Answer any six questions

- 29) Mention the importance of Herbarium.
- 30) Describe the different types of Parenchyma tissues.
- 31) Mention the type of chromosomal aberration in the diagram. Write a note on it.



32) Complete the following table showing details of ATP production in Aerobic respiration.

Sl.NO	Stages of Respiration	Number of Molecules of			Total number of ATP obtained
		ATP	NADH ₂	FADH ₂	
1.	Glycolysis	?	?	-	?
2.	Oxidative decarboxylation of Pyruvic acid	-	2	-	6
3.	Krebs Cycle	?	?	?	?
	Total	?	?	?	?

33) Bring out the economic importance of Teak.

- 34) A person's weight is 85 kg. His height is 175 cm. Find out his BMI. If the BMI is abnormal give him suggestions to become normal.
- 35) Draw a labelled diagram of the Renal tubular reabsorption.
- 36) What is Syphilis?
- 37) What is the significance of Human Geno Project? (any three)
- 38) Write the unique features of asiatic breeds of fowl.

Section - IV

8 x 5 = 40

IV. Answer All Questiuons:

- 39) a) Describe Hibiscus rosasinensis in technical terms.

(OR)

- b) Describe the Phloem tissues.

- 40) a) (a) What is SCP?

(b) Why people hesitate to use SCP as major food? list out any 4 points.

(c) Mention the organisms used for SCP production and mention any two uses of SCP.

(OR)

- b) What happens to the electrons released on excitation of PS I only? Explain with flow chart and mention the type of photophosphorylation.

- 41) a) Write an essay on origin and conduction of Heart beat with a suitable diagram.

(OR)

- b) Give an account of unique features of specific immunity.

- 42) a) Haemoglobin is a structural protein. During the synthesis of protein many series of changes occur till it attains stable structure. Explain the changes.

(OR)

- b) Each source of electric power generation is associated with some negative impacts on environment. List out the existing source of power generation and their negative impacts on environment.
