

This Question Paper consists of 43 questions and 08 printed pages.
इस प्रश्न-पत्र में 43 प्रश्न तथा 08 मुद्रित पृष्ठ हैं।

Roll No.
अनुक्रमांक

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Code No. 71/SS/314
कोड नं.

SET/सेट- **A1**

BIOLOGY (Theory)
जीवविज्ञान (सिद्धान्त)
(314)

Day and Date of Examination : _____
(परीक्षा का दिन व दिनांक)

Signature of Invigilators : 1. _____
(निरीक्षकों के हस्ताक्षर)

2. _____

General Instructions :

1. Candidate must write his/her Roll Number on the first page of the Question Paper.
2. Please check the Question Paper to verify that the total pages and total number of questions contained in the Question Paper are the same as those printed on the top of the first page. Also check to see that the questions are in sequential order.
3. Making any identification mark in the Answer-Book or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
4. Write your Question Paper Code No. 71/SS/314, Set - **A1** on the Answer-Book
5. (A) The Question Paper is in English/Hindi medium only. However, if you wish, you can answer in any one of the languages listed below :
English, Hindi, Urdu, Punjabi, Bengali, Tamil, Malayalam, Kannada, Telugu, Marathi, Oriya, Gujarati, Konkani, Manipuri, Assamese, Nepali, Kashmiri, Sanskrit and Sindhi.
You are required to indicate the language you have chosen to answer in the box provided in the Answer-Book.
(B) If you choose to write the answer in the language other than Hindi and English, the responsibility for any errors/mistakes in understanding the question will be yours only.

सामान्य अनुदेशः

1. परीक्षार्थी प्रश्न-पत्र के पहले पृष्ठ पर अपना अनुक्रमांक अवश्य लिखें।
2. कृपया प्रश्न-पत्र को जाँच लें कि प्रश्न-पत्र के कुल पृष्ठों तथा प्रश्नों की उतनी ही संख्या है जितनी प्रथम पृष्ठ के सबसे ऊपर छपी है। इस बात की जाँच भी कर लें कि प्रश्न क्रमिक रूप में हैं।
3. उत्तर-पुस्तिका में पहचान-चिह्न बनाने अथवा निर्दिष्ट स्थानों के अतिरिक्त कहीं भी अनुक्रमांक लिखने पर परीक्षार्थी को अयोग्य ठहराया जायेगा।
4. अपनी उत्तर-पुस्तिका पर प्रश्न-पत्र की कोड संख्या 71/SS/314, Set - **A1** लिखें।
5. (क) प्रश्न - पत्र केवल हिंदी/अंग्रेजी माध्यम में है। फिर भी, यदि आप चाहें तो नीचे दी गई किसी एक भाषा में उत्तर दे सकते हैं :
अंग्रेजी, हिंदी उर्दू, पंजाबी बाँगला, तमिल, मलयालम, कन्नड़, तेलुगु, मराठी, उड़िया, गुजराती, कोंकणी, मणिपुरी, असमिया, नेपाली, कश्मीरी, संस्कृत और सिंधी।
कृपया उत्तर-पुस्तिका में दिए गए बॉक्स में लिखें कि आप किस भाषा में उत्तर लिख रहे हैं।
(ख) यदि आप हिंदी एवं अंग्रेजी के अतिरिक्त किसी अन्य भाषा में उत्तर लिखते हैं तो प्रश्न को समझने में होने वाली त्रुटियों/गलतियों की जिम्मेदारी केवल आपकी होगी।

BIOLOGY (Theory)

(314)

Time : 3 Hours]

[Maximum Marks : 80

- Note :**
- (i) This question paper consists of **43** questions in all.
 - (ii) **All** questions are **compulsory**. Write your answers in answer book.
 - (iii) Marks are given against each question.

Section - A consists of :

Q. No. 1 to 16 - Multiple Choice type Questions (MCQs) carrying **1** mark each. Select and write the most appropriate option out of the four options given in each of these questions.

Section - B consists of :

Q. No. 17 to 28 - Objective type questions carry **2** marks (with **2** sub-parts of **1** mark each). Attempt these questions as per the instructions given for each of the questions.

Section - C consists of (Subjective -type questions) :

Q. No. 29 to 37 - Very Short answer type questions carrying **2** marks each to be answered in the range of **30 to 50** words.

Section - D consists of :

Q. No. 38 to 41 - Short answer type questions carrying **3** marks each to be answered in the range of **50 to 80** words.

Section - E consists of :

Q. No. 42 and 43 - Long answer type questions carrying **5** marks each to be answered in the range of **80 to 120** words.

Internal choices have been provided in some of these questions. You have to attempt only one of the given choices in such questions.

NOTE :

- (1) Answers of **all** questions are to be given in the Answer-Book given to you.
- (2) **15** minutes time has been allotted to read this question paper. The question paper will be distributed at **02.15** p.m. From **02.15** p.m. to **02.30** p.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

SECTION - A

Note : Q.No. 1 to 16 consists of Multiple Choice type Questions (MCQs) carrying 1 mark each.

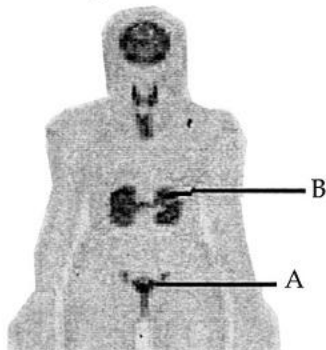
1. *Salmonella typhi* is a pathogen for : 1
(A) Cholera (B) Tetanus (C) Typhoid (D) Tuberculosis
2. Histology refers to the study of : 1
(A) Cells (B) Organs (C) Tissues (D) Plants
3. The essential photosynthetic pigment is : 1
(A) Chlorophyll A (B) Chlorophyll B (C) Xanthophyll (D) Carotenoids
4. The R Q for Carbohydrates is : 1
(A) 1 (B) 1.2 (C) 0.9 (D) 0
5. A person recovered from measles in childhood does not get the disease again, this is due to : 1
(A) Innate immunity (B) Active acquired immunity
(C) Passive immunity (D) Non specific body defense
6. Use of an artificial pace maker helps the patient to : 1
(A) Regulate body temperature (B) Regularise heart beat
(C) Helps in respiration (D) Helps in recording heart beat
7. This  T.S. of stem is of _____ because vascular bundles are in _____ like arrangement. 1
(A) dicot, ring (B) dicot, scattered
(C) monocot, ring (D) monocot, scattered
8. An unfertilised female gametophyte of an angiosperm has : 1
(A) 8 cells, 7 nuclei (B) 7 cells, 7 nuclei
(C) 7 cells, 8 nuclei (D) 8 cells, 8 nuclei
9. The alleles that express in homozygous condition are : 1
(A) dominant, codominant (B) dominant, recessive
(C) recessive, dominant (D) incompletely dominant
10. The correct order of layers of a young anther from outer to inner side is : 1
(A) endothecium, middle layer, epidermis, tapetum
(B) epidermis, endothecium, middle layer, tapetum
(C) tapetum, middle layer, endothecium, epidermis
(D) epidermis, tapetum, endothecium, middle layer

11. Obese person may get, 1
 (A) hypertension (B) atherosclerosis (C) heart attack (D) all of these
12. A transitional zone between two ecosystem is : 1
 (A) ecotone (B) biome (C) wetland (D) biosphere
13. A human population density in an area is 100 and after one year, it increases to 110. The factors responsible are : 1
 (A) Immigration, Natalty (B) Immigration, Mortality
 (C) Emigration Natalty (D) Emigration, Mortality
14. *Saccharomyces cerevisiae* belongs to : 1
 (A) algae (B) fungi (C) bacteria (D) virus
15. Large tanks used to carry out fermentation process are : 1
 (A) Stirrer (B) Bioreactor (C) Autoclave (D) Motor
16. Skin serve as 1st line of defence because. 1
 (A) it prevents the entry of pathogens into the body
 (B) it is the outer tough layer
 (C) it is the sense organ
 (D) none of the above

SECTION - B

Note : Q.No. 17 to 28 are Objective type questions carry 2 marks each.

17. Fill in the blanks : 2
 In human, since mitochondria come into _____ from the egg, inheritance of mitochondrial DNA is said to be a case of _____ inheritance.
18. Identify A and B in the diagram. 2

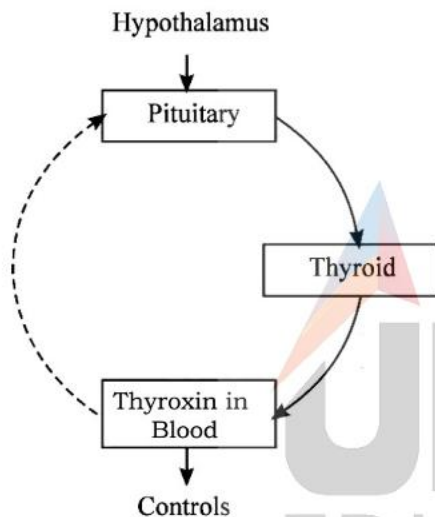


19. DNA $\xrightarrow{A}$ mRNA $\xrightarrow{B}$ Protein Name A and B ? 2

20. Match the following. 2

- | (A) | (B) |
|---------------|----------------------------------|
| (1) Malvaceae | (A) <i>Hibiscus rosasinensis</i> |
| (2) Fabaceae | (B) <i>Pisum sativum</i> |
| | (C) <i>Oryza sativum</i> |

21. What does solid line and broken line represents ? 2



22. Write True or False. 2

- (a) The edible part of coconut is endocarp
- (b) Apple is having fleshy thalamus

23. By looking at the diagram answer the following questions. 2



- (a) Name the technique.
- (b) What is its significance ?

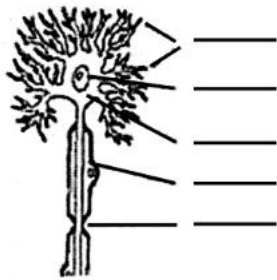
24. Choose the two correct words to fill in the blank (nodules, nodes, nodulins) 2

- (a) In legumes, nitrogen fixation occurs in specialized bodies called _____.
- (b) _____ is the special protein formed as a result of symbiosis in legumes.

25. Complete the diagram to label these parts.

2

Axon, Dendrites



26. (a) Name the disorder in this child body.
(b) What is the reason ?

2



27. After organ transplantation, patient should administer with immunosuppressants, why ?

2

28. Fill in the blank with the appropriate word given in the bracket.

2

The _____ of bird and bat are example of _____ organ.
(wings, beak, analogous, homologous)

SECTION - C

Note : Q.No. 29 to 37 are subjective type very short answer type questions carrying 2 marks each.

29. Construct a pyramid of number in a grassland with 4 trophic levels.

2

30. With reference to class Reptilia, Identify the two wrong statements.

2

- (a) Body is covered by hairs
- (b) Has paired pentadactyl limbs with clawed digits
- (c) Respiration is by lungs
- (d) Heart is two chambered

31. Construct a flow chart using these words. 2
Xylem, Complex permanent tissue, simple permanent tissue, plant tissue, meristem, parenchyma.
32. Write any two biotic and two abiotic components of pond ecosystem. 2
OR
Explain the term commensalism with an example.
33. Name the source to extract the following antibiotics. 2
(a) Tetracyclin
(b) Streptomycin
OR
Write any two advantages of biogas.
34. Write the function of the following carbohydrates. 2
(a) Glucose
(b) Cellulose
OR
Write any two function of roughage.
35. AUG has dual function, which are they ? 2
OR
Write anticodon of codon (i) AGU and (ii) UGC.
36. Draw the diagram to show the structure of DNA Molecule. 2
37. What is PEM ? Give the two reasons for PEM. 2

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SECTION - D

Note : Q.No. 38 to 41 are Short answer type questions carrying 3 marks each.

38. Write the schematic representation of nitrogen cycle. 3
39. Name the three subunits of nucleotide. 3
OR
Write any three differences between DNA and RNA.
40. Give reason : 3
(a) Testes are extra abdominal.
(b) In aphids, we can see only females.
(c) A mother should feed her new born baby just after the birth.
OR
What is colostrum. Why it is essential for newly born baby.
41. What is placenta ? Give any two of its functions. 3

SECTION - E

Note : Q.No. 42 and 43 are Long answer type questions carrying 5 marks each.

42. What is Photophosphorylation ? Write the differences between cyclic and non cyclic photophosphorylation. 5

OR

Name the Scientists who discovered C_3 cycle in plants. Write any four differences between C_3 plants and C_4 plants.

43. Identify the modified plant part in the following. 5

- (1) Rhizome of ginger
- (2) Carrot
- (3) Spines of opuntia
- (4) Thorns of Citrus
- (5) Phylloclade of Opuntia

OR

Identify adventitious root modification in the following :

- (1) Rhizophora
- (2) Cuscuta
- (3) Banyan
- (4) Sugarcane
- (5) Money plant

