

COMMON ENTRANCE TEST - 2004

Subject : BIOLOGY
DATE : 18.05.2004
TIME : 10.30 A.M. TO 11.50 A.M.
MAXIMUM MARKS : 60
MAXIMUM TIME : 80 MINUTES

Please fill your CET No. below				

QUESTION BOOKLET	
VERSION CODE	SERIAL NUMBER
A 1	083841

IMPORTANT INSTRUCTIONS TO CANDIDATES

(Please read the following instructions carefully, before you start answering on the OMR answer sheet)

1. The OMR answer sheet is issued at the start of the examination at 10.15 a.m., the candidate should first enter only Name and CET No. on the OMR answer sheet.
2. After the 2nd bell at 10.30 a.m. the Question Papers will be issued. Now, the candidate should enter the Version Code and Serial Number of question booklet on the OMR answer sheet. But, he shall not remove the staples on the right side of this booklet OR look inside the question booklet OR start answering on the OMR answer sheet until the 3rd bell rings.

As answer sheets are designed to suit the Optical Mark Reader (OMR) system, special care should be taken to fill those items accurately.

DO NOT DAMAGE OR MUTILATE THE TIMING, MARKS ON THE OMR ANSWER SHEETS.

3. Remove the staples at the right side to open the question paper booklet only after the 3rd bell at 10.40 a.m.
4. This question booklet contains 60 questions.
5. During the subsequent 70 minutes :
 - a) Read each question carefully.
 - b) Determine the correct answer from out of the four available choices given under each question.
 - c) **Completely darken / shade the relevant circle with a blue or black ink ballpoint pen against the question number on the OMR answer sheet.**

For example :

Q. No. 14 : The product of 0.5×0.05 is : 1) 0.05 2) 0.005 3) 0.025 4) 0.25

As the correct answer is option no. 3, the candidate should darken the circle corresponding to option no. 3 completely with a blue or black ink ballpoint pen on the OMR answer sheet, as shown below :



6. For each correct answer, one mark will be awarded. For each wrong answer, quarter ($1/4$) mark will be deducted and if more than one circle is darkened for a given question, one mark will be deducted. **Even a minute unintended dot will also be recognised and recorded by the scanner. Please avoid multiple markings of any kind.**
7. Rough work should be done only on the blank space provided on each page of the question booklet. Rough work should not be done on the OMR answer sheet.
8. Please stop writing when the last bell rings at 11.50 a.m. Hand over the OMR answer paper set to the invigilator, who will separate the top sheet and will retain the same with him and return the bottom sheet replica to you to carry home.

NOTE : The candidate should safely preserve the replica of the OMR answer sheet for a minimum period of one year from the date of Common Entrance Test.

148630

BIOLOGY

1. Respiratory Quotient (R.Q.) is represented by

1) $\frac{O_2}{CO_2}$

2) $\frac{C}{N}$

3) $\frac{N_2}{O_2}$

4) $\frac{CO_2}{O_2}$

2. Bacterial photosynthesis involves

1) PS I only

2) PS II only

3) Both PS I and PS II

4) Either PS I or PS II

3. One of the following is not the types of blood groups or blood factors

1) ABO and Rh

2) Rh and MN

3) Lewis and Duffy

4) Buffs and Kips

4. Gynaecomastia is the symptom of

1) Turner's Syndrome

2) Klinefelter's Syndrome

3) Down Syndrome

4) SARS

5. The term ecology was coined by

1) E. Munch

2) Odum

3) Reiter

4) Transley

(Space for Rough Work)

6. Synthesis of testosterone by Leydig cells is stimulated by
- | | |
|--------|---------|
| 1) FSH | 2) ICSH |
| 3) LTH | 4) TSH |
7. Which of the following statements is right ?
- | |
|--|
| 1) Diatoms produce basidiospores. |
| 2) Heterocysts are found in Nostoc. |
| 3) Fronds are found in Bryophytes. |
| 4) Multiciliate sperms are found in Angiosperms. |
8. The Biogenetic Law was proposed by
- | | |
|-------------|------------|
| 1) Weismann | 2) Haeckel |
| 3) F. Redi | 4) Richter |
9. Nodes of Ranvier are found in
- | | |
|-----------------|-----------|
| 1) Muscle fibre | 2) Neuron |
| 3) Axon | 4) Sperm |
10. Which of the following animals is protected in Kaziranga Sanctuary in Assam ?
- | | |
|--------------------|----------------------|
| 1) Indian Lion | 2) Indian bison |
| 3) Indian Elephant | 4) Indian Rhinoceros |

(Space for Rough Work)

11. Bamboo and grasses elongate by the activity of

- | | |
|-----------------------|-------------------------|
| 1) Apical meristem | 2) Intercalary meristem |
| 3) Secondary meristem | 4) Lateral meristem |

12. The example for trimorous, unisexual flowers is

- | | |
|--------------------------|--------------------|
| 1) Tamarind | 2) Pea |
| 3) <u>Cocos nucifera</u> | 4) <u>Hibiscus</u> |

13. The term species was coined by

- | | |
|--------------|-------------|
| 1) John Ray | 2) Linnaeus |
| 3) Aristotle | 4) Engler |

14. Match the Biological molecules listed under column I with their Biological functions given under column II; choose the answer which gives correct combination of alphabets of the two columns.

	Column - I (Biological molecules)		Column - II (Functions)
A	Starch	p	Protein synthesis
B	Haemoglobin	q	Sex hormone
C	RNA	r	Storage product
D	Steroid	s	Transport of gases

- | | |
|-------------------------------|-------------------------------|
| 1) A = r; B = p; C = s; D = q | 2) A = r; B = s; C = p; D = q |
| 3) A = s; B = r; C = p; D = q | 4) A = r; B = s; C = q; D = p |

15. One of the following is a disease of Poultry

- | | |
|---------------------------|---------------------|
| 1) Anthrax | 2) Ranikhet disease |
| 3) Foot and Mouth disease | 4) Pebrine disease |

(Space for Rough Work)

16. The "power house" of a cell is
- 1) Ribosome
 - 2) Golgi complex
 - 3) Mitochondrion
 - 4) Lysosome
17. The young one of cockroach is called
- 1) fingerling
 - 2) maggot
 - 3) caterpillar
 - 4) nymph
18. The yellow - coloured milk secreted by cattle soon after the birth of a calf is called
- 1) cholesterol
 - 2) colostrum
 - 3) chyme
 - 4) chyle
19. A bicollateral vascular bundle has the following arrangement of tissues.....
- 1) Outer Phloem - Outer Cambium - Middle Xylem - Inner Cambium - Inner Phloem.
 - 2) Outer Xylem - Outer Cambium - Middle Phloem - Inner Cambium - Inner Xylem.
 - 3) Outer Phloem - Outer Xylem - Middle Cambium - Inner Xylem - Inner Phloem.
 - 4) Outer Cambium - Outer Phloem - Middle Xylem - Inner Phloem - Inner Cambium.
20. Match the branches of Biology given under Column I with the field of study listed under column II; choose the answer which gives the correct combination of alphabets of two columns.

	Column I (Branch of Biology)		Column II (Field of study)
A	Malacology	p	Reptiles
B	Pomology	q	Fungi
C	Mycology	r	Fruits
D	Ornithology	s	Molluscs
		t	Birds

- 1) A = p; B = r; C = q; D = t
- 2) A = t; B = s; C = q; D = p
- 3) A = s; B = r; C = q; D = t
- 4) A = s; B = r; C = p; D = t

(Space for Rough Work)

21. An example for Pasteur effect is

- 1) Saccharomyces 2) Nostoc
 3) Penicillium 4) Pinnularia

22. One of the following is also called Sewall Wright Effect

- 1) Gene Pool 2) Gene flow
 3) Genetic Drift 4) Isolation

23. Match the types of cells listed under column I with the secretions given under column II. Choose the answer which gives the correct combination of the alphabets of the two columns.

	Column - I (Types of cells)		Column - II (Secretions)
A	Beta cells	p	Lysozyme
B	Mast cells	q	Mucus
C	Paneth cells	r	Histamine
D	Acinar cells	s	Insulin
		t	Pancreatic enzymes

- 1) A = s; B = r; C = p; D = t 2) A = q; B = r; C = p; D = t
 3) A = s; B = q; C = p; D = t 4) A = t; B = q; C = r; D = s

24. Which of the following is a mechanical barrier used in birth control ?

- 1) Copper T 2) Diaphragm
 3) Loop 4) Dalcon shield

25. The gases used in the spark - discharge apparatus were

- 1) O_2 , CO_2 and NH_3 2) NH_3 , CH_4 and O_2
 3) H_2 , CH_4 and NH_3 4) CO_2 , NH_3 and CH_4

(Space for Rough Work)

26. Choose the cat fish from the following :

- 1) Labeo rohita
- 2) Catla catla
- 3) Cirrhina mrigala
- 4) Wallago attu

27. Identify the plasmid

- 1) Eco RI
- 2) pBR 322
- 3) AIU I
- 4) Hind III

28. Match the types of bacteria listed in column I with their activity given in column II. Choose the correct combination of alphabets of the two columns.

	Column - I (Types of bacteria)		Column - II (Activity)
A	Streptomyces	p	Food poisoning
B	Rhizobium	q	Source of Antibiotics
C	Nitrosomonas	r	Nitrogen fixation
D	Acetobacter	s	Nitrification
		t	Vinegar synthesis

- 1) A = s; B = t; C = p; D = r
- 2) A = t; B = p; C = r; D = s
- 3) A = q; B = r; C = p; D = t
- 4) A = q; B = r; C = s; D = t

29. ATP was discovered by

- 1) Lipmann
- 2) Karl Lohman
- 3) Blackman
- 4) Bowman

30. DNA finger printing technique was first developed by

- 1) Schleiden and Schwan
- 2) Edwards and Steptoe
- 3) Jeffreys, Wilson and Thien
- 4) Boysen and Jensen

(Space for Rough Work)

31. A gene of operon which synthesizes a repressor protein is

- 1) Operator gene
- 2) Regulator gene
- 3) Promoter gene
- 4) Structural gene

32. Match the excretory organs listed under column I with the animals given under column II. Choose the answer which gives the correct combination of alphabets of the two columns.

	Column - I (Excretory organs)		Column - II (Animals)
A	Nephridia	p	Hydra
B	Malpighian Tubules	q	Leech
C	Protonephridia	r	Shark
D	Kidneys	s	Round worms
		t	Cockroach

- 1) A = t; B = q; C = s; D = r
- 2) A = q; B = s; C = t; D = p
- 3) A = q; B = t; C = s; D = r
- 4) A = s; B = q; C = p; D = t

33. Sericteries are modified

- 1) gastric glands
- 2) endocrine glands
- 3) intestinal glands
- 4) Salivary glands

34. The Law of Limiting Factors was proposed by

- 1) Robert Hill
- 2) R. Emerson
- 3) F. F. Blackman
- 4) D. Arnon

35. Nebenkern is a part of

- 1) Human ovum
- 2) Human sperm
- 3) Foetus
- 4) Graafian follicle

(Space for Rough Work)

36. The first antibiotic was discovered by
- | | |
|---------------|------------------|
| 1) R. Koch | 2) Louis Pasteur |
| 3) A. Fleming | 4) W. Fleming |
37. A four chambered heart is not found in
- | | |
|------------|--------------|
| 1) Snake | 2) Crocodile |
| 3) Mammals | 4) Birds |
38. Balance theory of sex determination was proposed by
- | | |
|----------------------|-----------------|
| 1) T. H. Morgan | 2) Waldeyer |
| 3) Calvin B. Bridges | 4) Strassburger |
39. Elongation of a genetically dwarf plant is possible by application of
- | | |
|-------------------|-----------------|
| 1) Absciscic Acid | 2) Gibberellins |
| 3) Cytokinin | 4) Ethylene |
40. The primary visual area is located in
- | | |
|------------------|-------------------|
| 1) Frontal lobe | 2) Parietal lobe |
| 3) Temporal lobe | 4) Occipital lobe |

(Space for Rough Work)

41. Murein is not found in the cell wall of

- | | |
|------------------|---------------|
| 1) Cyanobacteria | 2) Diatoms |
| 3) Nostoc | 4) Eubacteria |

42. Largest gametophyte is found in

- | | |
|----------------|----------------|
| 1) Nephrolepis | 2) Cycas |
| 3) Angiosperm | 4) Polytrichum |

43. Match the names of diseases listed under column I with the meanings given under column II; choose the answer which gives the correct combination of the alphabets of the two columns.

	Column - I (Names of Diseases)		Column - II (Meanings)
A	Jaundice	p	allergic inflammation of nose
B	Stenosis	q	loss of motor functions
C	Rhinitis	r	heart valve defect
D	Paralysis	s	increase in bile pigments in the blood
		t	Septal defect of heart

- | | |
|-------------------------------|-------------------------------|
| 1) A = s; B = r; C = p; D = q | 2) A = s; B = t; C = p; D = q |
| 3) A = q; B = t; C = r; D = p | 4) A = s; B = p; C = q; D = r |

44. Ganong's respiroscope is used to demonstrate

- 1) evolution of oxygen during photosynthesis.
- 2) evolution of carbon dioxide during fermentation.
- 3) production of carbon dioxide during aerobic respiration.
- 4) production of heat during aerobic respiration.

45. Balbiani rings are found in

- | | |
|--------------------|-------------------------|
| 1) dicot stems | 2) polytene chromosome |
| 3) all chromosomes | 4) Lampbrush chromosome |

(Space for Rough Work)

46. Coacervates were experimentally produced by
- | | |
|-----------------------|--------------------------|
| 1) Fischer and Huxley | 2) Sidney Fox and Oparin |
| 3) Urey and Miller | 4) Jacob and Monod |
47. The scientific name of zebu is
- | | |
|---------------------------|-------------------------|
| 1) <u>Bubalus bubalis</u> | 2) <u>Gallus gallus</u> |
| 3) <u>Bos indicus</u> | 4) <u>Bombyx mori</u> |
48. Motor cells are found in
- | | |
|-----------------|------------------------------------|
| 1) brain | 2) spinal cord |
| 3) monocot leaf | 4) upper epidermis of monocot leaf |
49. These belong to the category of primary consumers
- | | |
|---------------------|-----------------------|
| 1) Eagle and snakes | 2) Insects and cattle |
| 3) Snakes and Frogs | 4) Water insects |
50. Bhopal tragedy of 1984 was caused by the leakage of gas
- | | |
|----------------------|---------------------------------------|
| 1) Ammonia | 2) Hydrogen cyanide |
| 3) Methyl Isocyanate | 4) 2, 4 - Dichlorophenoxy acetic acid |

(Space for Rough Work)

51. Volkman's canals occur in

- 1) Cartilage
3) Internal ear

- 2) Bone
4) Liver

52. The lacteals are found in

- 1) spleen
3) salivary gland

- 2) mammary gland
4) villi

53. Match the theories given in column I with the names of scientists listed in column II. Choose the answer which gives the correct combination of the alphabets.

	Column - I (Names of theories)		Column - II (Names of scientists)
A	Relay pump theory	p	Stocking
B	Transpiration cohesion theory	q	Sir J. C. Bose
C	Mass flow theory	r	Godlewski
D	Pulsation theory	s	Dixon and Joly
		t	Ernst Munch

- 1) A = r; B = q; C = t; D = q
3) A = r; B = s; C = t; D = q

- 2) A = q; B = p; C = t; D = r
4) A = s; B = r; C = p; D = q

54. The World Environment Day is celebrated on

- 1) 5th of June
3) 5th of May

- 2) 6th of June
4) 6th of August

55. One of the following is called pitcher plant

- 1) Drosera
3) Nepenthes

- 2) Utricularia
4) Aristolochia

(Space for Rough Work)

56. Choroid plexus is a network of

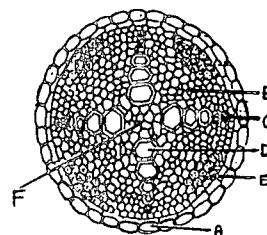
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|----------------|------------------|
| 1) nerves | 2) lymph vessels |
| 3) capillaries | 4) muscle fibres |

57. Chiropteriphily means

- | | |
|--------------------------|---------------------------|
| 1) Pollination by wind | 2) Pollination by insects |
| 3) Pollination by snails | 4) Pollination by bats |

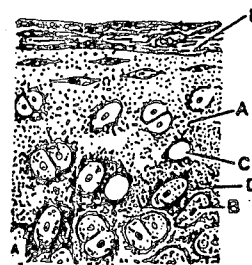
58. In the diagram of T.S. of Stele of Dicot Root, the different parts have been indicated by alphabets; choose the answer in which these alphabets correctly match with the parts they indicate.

- 1) A = Pericycle; B = Conjunctive tissue; C = Metaxylem;
D = Protoxylem; E = Phloem; F = Pith.
- 2) A = Endodermis; B = Conjunctive tissue; C = Protoxylem;
D = Metaxylem; E = Phloem; F = Pith
- 3) A = Endodermis; B = Conjunctive tissue; C = Metaxylem;
D = Protoxylem; E = Phloem; F = Pith
- 4) A = Endodermis; B = Pith; C = Protoxylem;
D = Metaxylem; E = Phloem; F = Conjunctive tissue



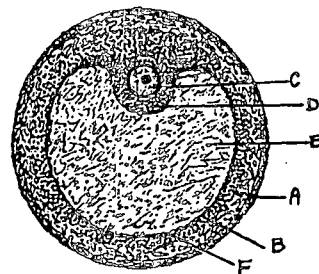
59. In the diagram of section of Hyaline cartilage, the different parts have been indicated by alphabets; choose the answer in which these alphabets correctly match with the parts they indicate.

- 1) A = Chondrin; B = Chondrocyte; C = Lacuna;
D = Capsular matrix; E = Perichondrium
- 2) A = Chondrin; B = Lacuna; C = Chondrocyte;
D = Capsular matrix; E = Perichondrium
- 3) A = Perichondrium; B = Chondrocyte; C = Lacuna;
D = Capsular matrix; E = Chondrin
- 4) A = Capsular matrix; B = Chondrocyte; C = Lacuna;
D = Perichondrium; E = Chondrin



60. In the diagram of section of Graafian follicle, different parts are indicated by alphabets; choose the answer in which these alphabets have been correctly matched with the parts they indicate.

- 1) A = Membrana granulosa; B = Theca interna;
C = Ovum; D = Cumulus oophorus; E = Antrum;
F = Theca externa.
- 2) A = Theca externa; B = Theca interna; C = Ovum;
D = Membrana granulosa; E = Antrum;
F = Cumulus oophorus
- 3) A = Theca externa; B = Theca interna; C = Ovum;
D = Cumulus oophorus; E = Antrum; F = Membrana granulosa.
- 4) A = Membrana granulosa; B = Theca externa; C = Ovum;
D = Cumulus oophorus; E = Antrum; F = Theca interna



(Space for Rough Work)

A-1