

CET (UG) – 2017**Booklet Series Code : A****Important :** Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

(In Figures)

(In Words)

Roll No. :

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O.M.R. Answer Sheet Serial No. :

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Signature of the Candidate :

Subject : BIOLOGY

Time : 70 Minutes]

[Maximum Marks : 120

No. of Questions : 60]

[Total No. of Printed Pages : 12

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO**INSTRUCTIONS :**

- Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
- Enter the Subject and Series Code of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel pen**.
- Do not make any identification mark on the Answer Sheet or Question Booklet.
- To open the Question Booklet remove the paper seal gently when asked to do so.
- Please check that this Question Booklet contains **60** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
- Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**.
- If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
- Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
- Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
- For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
- For rough work only the sheets marked "Rough Work" at the end of the Question Booklet be used.
- The Answer Sheet is designed for **computer evaluation**. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
- After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
- In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so, would be expelled from the examination.
- A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
- Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculators is not allowed.

SEAL

- 1. Unique feature of annelida is :**
(A) Hermaphrodite (B) Nephridia
(C) Coelom (D) Alimentary canal is complete
- 2. In cockroach, ootheca is produced by secretion of :**
(A) Phallic gland (B) Colleterial gland
(C) Conglobate gland (D) Mushroom gland
- 3. A child with mother of blood group A and father of AB blood group will not have the following blood group :**
(A) AB (B) A
(C) B (D) O
- 4. A cross between hybrid and its recessive parent :**
(A) Back cross (B) Test cross
(C) Monohybrid cross (D) Reverse cross
- 5. Down's syndrome has :**
(A) Trisomy 18 (B) XXX constitution
(C) Deletion of chromosome 5 (D) Trisomy 21
- 6. XX-XO sex chromosome complement occurs in :**
(A) Cockroach (B) Honey bee
(C) Human beings (D) Chimpanzee
- 7. Which histone is not part of nucleosome particle :**
(A) H2 (B) H3
(C) H4 (D) H1
- 8. In eukaryotes mRNA is synthesized with the aid of :**
(A) RNA polymerase III (B) RNA polymerase II
(C) RNA polymerase I (D) Reverse transcriptase

9. All non-sense codons have first base :
- (A) Adenine (B) Cytosine
(C) Uracil (D) Guanine
10. In E.coli lac operon is induced by :
- (A) Lactose (B) Promoter gene
(C) Beta galactosidase (D) I-gene
11. Opium is obtained from which part of the plant ?
- (A) Leaves (B) Fruits
(C) Flowers (D) Roots
12. The cells that actually release antibodies are :
- (A) Helper T-cells (B) Cytotoxic T-cells
(C) Plasma cells (D) Memory cells
13. HIV attacks which cells :
- (A) B-cells (B) T-cells
(C) Antigen presenting cells (D) T-helper cells
14. Heart beat is initiated by :
- (A) AV node (B) SA node
(C) Bundle of HIS (D) Purkinje fibres
15. Growth hormone is secreted by :
- (A) Thyroid (B) Thymus
(C) Adrenal (D) Pituitary

16. **Trypsinogen is converted to active trypsin by action of :**
(A) Cholecystokinin (B) Enterocrinin
(C) Enterokinase (D) Secretin
17. **The amount of air that moves in and out of the lungs with each normal inspiration and expiration is called :**
(A) Residual volume (B) Vital capacity
(C) Tidal volume (D) Tidal capacity
18. **Rate of glomerular filtration per minute in an adult Human being is :**
(A) 125 ml (B) 25 ml
(C) 225 ml (D) 425 ml
19. **Sarcomere is distance between :**
(A) Z-line to Z-line (B) Two I bands
(C) Two A bands (D) Two surfaces of a Z-line
20. **Pons varolli forms the part of :**
(A) Mid brain (B) Optic thalmi
(C) Cerebellum (D) Cerebrum
21. **Amoebiasis is caused by :**
(A) Plasmodium vivax (B) Entamoeba gingivalis
(C) Entamoeba histolytica (D) Trypanosoma gambiense
22. **Hyaluronidase enzyme is present in :**
(A) Zona pallucida (B) Acrosome
(C) Middle piece (D) Follicle cells
23. **The most accepted theory of origin of life was proposed by :**
(A) Oparin and Haldane (B) Miller and Urey
(C) Darwin and Huxley (D) Stebbins and Wright

24. Which of the following is not a vestigial organ ?
- (A) Vermiform appendix (B) Pinna of ear
(C) Molars (D) Rumen
25. Which of the following drugs is commonly called sleeping pill ?
- (A) Barbiturates (B) Opiate narcotics
(C) Hallucinogens (D) Antihistamines
26. Enzyme amylase belongs to category :
- (A) Oxidoreductases (B) Transferases
(C) Hydrolases (D) Isomerases
27. Centre of thirst and hunger is :
- (A) Medulla oblongata (B) Cerebellum
(C) Hypothalamus (D) Cerebrum
28. Which is the principal site for concentration of urine ?
- (A) Loop of henle (B) Glomerulus
(C) Collecting tubule (D) DCT
29. Bicuspid valve allows blood from :
- (A) Right auricle to left ventricle (B) Right auricle to right ventricle
(C) Post caval to heart (D) Left auricle to right ventricle
30. Which of the following are not analogous organs ?
- (A) Forelimb of horse and ox (B) Flipper of whale and fin of shark
(C) Wing of insect and bat (D) Wing of bat and hand of man

31. Which one is not the feature of cyanobacteria ?
(A) Peptidoglycan cell wall (B) Presence of chlorophyll a
(C) Presence of pyrenoid (D) Absence of flagellation
32. Who was the first to observe a living cell ?
(A) Robert Brown (B) Robert Hooke
(C) Anton von Leeuwenhoek (D) Dutrochet
33. Two subunits of a prokaryotic ribosome are :
(A) 30S and 40S (B) 30S and 50S
(C) 40S and 50S (D) 40S and 60S
34. Cytoplasmic streaming movements in a eukaryotic cell are due to the presence of :
(A) Water (B) Microtubules
(C) Protofilaments (D) Microfilaments
35. The Air (Prevention and Control of Pollution) Act 1981 was amended in 1987 to include :
(A) A new auto fuel policy to cut down vehicular pollution
(B) Noise as an air pollutant
(C) The use of motor vehicles equipped with catalytic converters using unleaded fuel
(D) Stringent laws to implement the Air Pollution Act
36. Large sized and more lysosomes are present in :
(A) Erythrocytes (B) Kupffer's cells
(C) Endocrine gland cells (D) Epithelial cells
37. The largest amount of phosphate bond energy is produced in the process of respiration during :
(A) Glycolysis (B) Krebs' cycle
(C) Anaerobic respiration (D) Fermentation
38. Which is the incorrect statement of the following ?
(A) The material to be packaged in the form of vesicles enters the trans face of Golgi body
(B) The vacuoles occupy up to 90% of volume in a plant cell
(C) The carotenoid pigments present in chromoplasts are fat soluble
(D) Stroma of a chloroplast contains enzymes for the synthesis of carbohydrates and proteins

39. The cofactor essential for the catalytic activity of carboxypeptidase enzyme is :
(A) Fe^{++} (B) Mn^{++}
(C) Mg^{++} (D) Zn^{++}
40. The leucoplasts present in the endosperm of Castor seeds are called :
(A) Amyloplasts (B) Aleuronoplasts
(C) Elaioplasts (D) Phaeoplasts
41. Each of the four cells formed after meiosis has chromosome number 8 and DNA content X pg. What would be the chromosome number and DNA content respectively at G_2 phase of the cell cycle ?
(A) 8, X (B) 8, 2X
(C) 16, 2X (D) 16, 4X
42. In electron transport chain, the complex IV refers to :
(A) Cytochrome bc complex (B) NADH dehydrogenase complex
(C) Cytochrome c oxidase complex (D) ATP synthase complex
43. Calvin pathway which forms sugars, is common to all plants and occurs in :
(A) Mesophyll cells of both C_3 and C_4 plants
(B) Mesophyll cells of C_3 and bundle sheath cells of C_4 plants
(C) Bundle sheath cells of C_3 and mesophyll cells of C_4 plants
(D) Bundle sheath cells of both C_3 and C_4 plants
44. Which of the following gibberellins is first discovered and the most studied one ?
(A) GA_1 (B) GA_2
(C) GA_3 (D) GA_4
45. The variety of Cowpea bred by hybridisation and selection for resistance to bacterial blight is :
(A) Pusa Komal (B) Pusa Swarnim
(C) Pusa Shubhra (D) Pusa Sada Bahar

46. **Double fertilization in flowering plants refers to :**
- (A) Triple fusion
 - (B) Fusion of one male gamete with egg and another male gamete with two nuclei of central cell
 - (C) Fusion of one male gamete with an egg
 - (D) Fusion of two male gamete with egg to form endosperm nucleus
47. **Which one of the following is not a criterion for a region to be declared as the biodiversity hotspot ?**
- (A) Regions with high level of species richness
 - (B) Regions with accelerated habitat loss
 - (C) High degree of endemism
 - (D) Regions with maximum population decline of a species
48. **Which set of features represents Class Deuteromycetes ?**
- (A) Aseptate, unbranched mycelium, asexual reproduction by zoospores and sexual by isogametes
 - (B) Aseptate, branched mycelium, asexual reproduction by conidia and sexual reproduction by anisogametes
 - (C) Septate, unbranched mycelium, asexual reproduction by aplanospores and absence of sex organs
 - (D) Septate, branched mycelium, asexual reproduction by conidia and absence of sexual reproduction
49. **Which is incorrect statement ?**
- (A) *Sequoia*, one of the tallest tree species, is a gymnosperm
 - (B) Roots in *Pinus* have fungal association in the form of mycorrhiza
 - (C) Leaves in Gymnosperms have thick cuticle and sunken stomata to reduce water loss
 - (D) The male and female gametophytes have an independent free-living existence
50. **When a large amount of sewage wastewater is allowed into a river, its biological oxygen demand will :**
- (A) Increase
 - (B) Decrease
 - (C) Show no change
 - (D) Drop to zero
51. **The number of neck canal cells in *Selaginella* is :**
- (A) 1
 - (B) 2
 - (C) 3
 - (D) 4

52. **Archegonia are present in :**
 (A) Algae, Bryophytes and Pteridophytes
 (B) Bryophytes, Pteridophytes and Gymnosperms
 (C) Pteridophytes, Gymnosperms and Angiosperms
 (D) Bryophytes, Gymnosperms and Angiosperms
53. **The largest size of plants among the following classes is found in :**
 (A) Chlorophyceae (B) Bacillariophyceae
 (C) Rhodophyceae (D) Phaeophyceae
54. **Osmotic pressure will be highest in :**
 (A) Xerophytes (B) Halophytes
 (C) Lithophytes (D) Mesophytes
55. **Marginal placentation is found in :**
 (A) Tomato (B) Pea
 (C) Mustard (D) Sunflower
56. **During secondary growth in a stem, cork cambium cuts off cells on its outer and inner sides. Outer cells differentiate into :**
 (A) Phellem (B) Phellogen
 (C) Phelloderm (D) Periderm
57. **A plant develops seed from :**
 (A) Embryo sac (B) Embryo
 (C) Ovule (D) Ovary
58. **Oxygen deprivation in roots normally cause a sudden drop in :**
 (A) Active absorption of minerals
 (B) Passive absorption of minerals
 (C) Both active and passive absorption of minerals
 (D) Photosynthetic pigments
59. **Which is incorrect statement ?**
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60. **Which statement is incorrect ?**
 (A) Zaminkand is a root modified for storage of food
 (B) Thorns in Citrus are modified axillary buds
 (C) In Gourds, tendrils helping the plant to climb develop from axillary buds
 (D) The hanging structure supporting a Banyan tree and actually modified roots