



## MOCK CET - 2015

DATE	SUBJECT	TIME
17.04.2015	BIOLOGY	3.50 PM TO 5.00 PM
MAXIMUM MARKS	TOTAL DURATION	MAXIMUM TIME FOR ANSWERING
60	80 MINUTES	70 MINUTES
MENTION YOUR CET NUMBER	QUESTION BOOKLET DETAILS	
	VERSION CODE	SERIAL NUMBER
	A-1	

### DOs:

1. Check whether the CET No. has been entered and shaded in the respective circles on the OMR answer sheet.
2. This Question Booklet is issued to you by the Invigilator after **1<sup>st</sup> Bell** i.e, after **3.45 p.m**
3. The Serial Number of this question booklet should be entered on the OMR answer sheet.
4. The Version Code of this question booklet should be entered on the OMR answer sheet and the respective circles should be shaded completely.
5. Compulsory sign at the bottom portion of the OMR answer sheet in the space provided.

### DONTS:

1. **The timing and marks printed on the OMR answer sheet should not be damaged/mutilated/ spoiled.**
2. The **2<sup>nd</sup> Bell** rings at **3.50 p.m.** till then,
  - Do not remove the seal/staple present on the right hand side of this question booklet.
  - Do not look inside this question booklet.
  - Do not start answering on the OMR answer sheet.

### IMPORTANT INSTRUCTIONS TO CANDIDATES

1. This question booklet contains 60 questions and each question will have one statement and four distraction (four different options / choices).
2. After the **2<sup>nd</sup> Bell** is rung at **3.50 p.m.** Remove the seal/staple present on the right hand side of this question booklet and start answering on the OMR answer sheet.
3. During the subsequent 70 minutes:
  - Read each question carefully.
  - Choose the correct answer from out of the four available distracters (options /choices) given under each question/statement.
  - Completely **darken / shade** the relevant circle with a **BLUE OR BLACK INK BALLPOINT PEN** against the **question number on the answer sheet.**

**CORRECT METHOD OF SHADING THE CIRCLE ON THE ANSWER SHEET IS AS SHOWN BELOW:**



4. Please note that even a minute unintended ink dot on the answer sheet will also be recognized and recorded by the scanner. Therefore, avoid multiple markings of any kind on the OMR sheet.
5. Use the space provided on each page of the question booklet for Rough work. Do not use the OMR answer sheet for the same.
6. After the **last bell** is rung at **5.00 pm** stop writing on the OMR answer sheet and affix your **LEFT HAND THUMB IMPRESSION** on the OMR answer sheet as per the instructions.
7. Hand over the OMR answer sheet to the room invigilator as it is.
8. After separating and retaining the top sheet, (UA copy ) the invigilator will return the bottom sheet replica (candidate's copy) to you to carry home for self – evaluation.
9. Preserve the replica of the OMR answer sheet for a minimum period of **ONE week**. For results, log on to the website [www.uaes.in](http://www.uaes.in) 5 days after the examination.

## BIOLOGY CET - 1

1. Product of sexual reproduction generally generates
  - a) Prolonged dormancy
  - b) New genetic combination leading to variation
  - c) Large biomass
  - d) Longer viability of seeds
2. Formation of triploid endosperm in angiosperms can be found in
  - a) Monocarpellary condition
  - b) Bicarpellary condition
  - c) Polycarpellary condition
  - d) All the above
3. When an ovary develop into a fruit without fertilization it is called
  - a) Porogamy
  - b) apospory
  - c) apogamy
  - d) parthenocarpy
4. Double fertilization was discovered by Nawaschin in
  - a) Pisum and Carica
  - b) Lillium and Fritillaria
  - c) Mangifera and Saccharum
  - d) Brassica and Iberis.
5. Pollination in Vallisneria is by
  - a) Wind
  - b) animals
  - c) Insects
  - d) water
6. Sustentacular cells is another name of
  - a) Leydig cells
  - b) oocytes
  - c) Sertoli cells
  - d) oogonia
7. The immediate predecessors of spermatids are
  - a) Spermatogonia
  - b) Primary spermatocytes
  - c) Secondary spermatocytes
  - d) Sperm mother cells.
8. Menstrual flow occurs due to lack of
  - a) FSH
  - b) oxytocin
  - c) vasopressin
  - d) progesterone
9. The secretions of one of the following are rich in fructose, calcium and some enzymes?
  - a) Uterus
  - b) Liver
  - c) Male accessory glands
  - d) Salivary glands
10. The permissible use of the technique amniocentesis is for
  - a) Detecting any geneti abnormality
  - b) Detecting sex of theunborn foetus
  - c) Artificial insemination
  - d) Transfer of embryo into the uterus of a surrogate mother
11. Sickle cell anemia has not been eliminated from the African population because it
  - a) Is controlled by dominant genes
  - b) Is controlled by recessive genes
  - c) Is not a fatal disease
  - d) Provides immunity against malaria
12. Multiple alleles are characterized by
  - a) More than two alternate forms of genes found at different loci
  - b) More than two alternate forms of genes found onsame loci
  - c) One gene occur in two chromosomes
  - d) One of these
13. A test cross is carried out to
  - a) Determine the genotype of a plant at P<sub>2</sub>
  - b) Predict whether two traits are linked
  - c) Assess the number of alleles of a gene
  - d) Determine whether two species or varieties will breed successfully
14. Meselson and Stahl experiment proved
  - a) DNA is genetic material
  - b) Central dogma
  - c) Semi conservative DNA replication
  - d) transduction
15. Sickle cell anaemia is
  - a) autosomal dominant inheritance
  - b) X-linked recessive inheritance

- c) Autosomal recessive inheritance                      d) X-linked dominant inheritance
16. DNA helicase helps in  
 a) Opening supercoils of DNA  
 b) Making DNA helix  
 c) Opening two chains of DNA helix  
 d) Making hydrogen bonds of nitrogenous bases
17. What is it that forms the basis of DNA Fingerprinting?  
 a) The relative proportions of purines and pyrimidines in DNA  
 b) The relative difference in the DNA occurrence in blood, skin and saliva  
 c) The relative amount of DNA in the ridges and grooves of the fingerprints  
 d) Satellite DNA occurring as highly repeated short DNA segments
18. If there was no CO<sub>2</sub> in the earth's atmosphere, the temperature of earth's surface would be  
 a) same as present  
 b) less than the present  
 c) higher than the present  
 d) dependent on the amount of oxygen in the atmosphere.
19. Which is the connecting link between birds and reptiles?  
 a) Archeopteryx              b) Club moss              c) Chimaera              d) All above
20. These are some examples of vestigial structures in man  
 a) Wisdom tooth vermiform appendix, hair  
 b) Wisdom tooth, vermiform appendix, conccyx  
 c) Wisdom tooth, head, nails  
 d) None of these
21. Pleura is double membrane sac which envelopes  
 a) kidneys                      b) brain                      c) lungs                      d) nasal passage
22. Theory of 'saltations, was given by  
 a) Mendel                      b) Hugo de Vries              c) J.B.S. Haldane              d) H.J.mMiller
23. Cancer cells are more easily damaged by, radiation than normal cells because they are  
 a) Starved of nutrition              b) undergoing rapid division  
 c) Different in structure              d) non-dividing
24. Widal test is used for the diagnosis of  
 a) Typhoid                      b) malaria                      c) pneumonia              d) tuberculosis
25. Deficiency of B-cells and T-cells is known as  
 a) Pathogenicity              b) autoimmunity              c) Cytotoxicity              d) immune deficiency
26. Opium, morphine, hernoin, pethidine and methadone are collectively called as  
 a) Tranquillisers              b) stimulants              c) Hallucinogens              d) opiate narcotics
27. Hybrid vigour is due to  
 a) Chiasmata                      b) linkage                      c) Crossing over              d) heterozygosity
28. Virus free clones are obtained from  
 a) Anther culture              b) haploid culture              c) Embroids              d) shoot tip culture
29. The main sources of biofertilizers are  
 a) Rhizobium like bacteria              b) cyanobateria  
 c) Fungi                      d) all of these
30. Plasmid's replication is  
 a) Autonomous                      b) depends on the genomic DNA  
 c) Needs an initiator              d) does not replicate
31. Restriction enzymes are  
 a) Not always required in genetic engineering  
 b) Essential tools in genetic engineering  
 c) Nucleases that cleave DNA wherever it contains a particular short sequence of nucleotides  
 d) Both b and c
32. The enzyme used in polymerase chain reaction PCR is  
 a) Taq polymerase              b) RNA polymerase              c) Ribonuclease              d) endonuclease

33. Electroporation procedure involves
- Fast passage of food through sieve pores in phloem elements with the help of electric stimulation
  - Opening of stomatal pores during night by artificial light
  - Making transient pores in the cell membrane to introduce gene constructs
  - Purification of saline water with the help of a membrane system
34. Select the wrong statement
- Pectinase and cellulose dissolve the cell wall
  - Some Cyanobacteria form symbiotic association with the fern *Azolla*
  - Regeneration of cell wall in somatic hybridization is induced by PEG
  - Plants obtained through pollen culture are always haploids
35. Which of the following is employed to fragment DNA in finger printing?
- Reverse transcription
  - RNA-polymerase-III
  - Restriction endonuclease
  - ECOR-1
36. A protein toxin produced by *Bacillus thuringiensis* is
- Thurioside
  - thrin
  - Subtilism
  - none above
37. During sewage treatment the microorganisms participate under which step?
- Primary
  - Secondary
  - Tertiary
  - None above
38. Adaptations are meant for
- Change
  - improvement
  - Survival
  - extinction
39. The apex of age pyramid of a stationary population is
- Verry narrow
  - broad
  - Almost equal to base
  - none above
40. Different types of interactions and the nature of interactions between A and B are given in column I and II respectively. Choose the correct answer from the answer key.
- |                                      |   |
|--------------------------------------|---|
| Column I                             | Column II                               |
| a. Mutualism                         | p. Beneficial to A no effect for B      |
| b. Competition                       | q. Beneficial to both A and B           |
| c. Parasitism                        | r. Beneficial to A and inhibitory for B |
| d. Predation                         | s. Beneficial to A and harmful to B     |
| e. Commensalism                      | t. Harmful to both A and B              |
| a) a = t, b = s, c = p, d = q, e = r | b) a = q, b = r, c = t, d = s, e = p    |
| c) a = q, b = t, c = s, d = r, e = p | d) a = r, b = p, c = q, d = s, e = r    |
41. Match the correct set.
- |   |   |
|---|---|
| A. Diapause                                       | 1. Deep winter sleep after accumulation of body fat.  |
| B. Hibernation                                    | 2. A change in the properties of an organism at genetic Level in response to environment                          |
| C. Phenotypic                                     | 3. Parasitism   |
| D. Interaction of an orchid growing on mango tree | 4. Commensalism   |
|   | 5. Physiological state of dormancy with very specific triggering and releasing conditions being suspended growth. |
- |    |   |   |   |   |
|----|---|---|---|---|
|    | A | B | C | D |
| a) | 1 | 5 | 4 | 3 |
| b) | 1 | 5 | 2 | 4 |
| c) | 5 | 1 | 2 | 3 |
| d) | 5 | 1 | 2 | 4 |
42. Mycobiont and phycobiont association is
- symbiotic
  - commensal
  - parasitin
  - helotism
43. Genetic drift operates in only.....populations
- island
  - smaller
  - larger
  - Mendelian
44. Copper-T acts by
- suppression of fertilization by forming a membrane
  - disturbing the site of implantation of blastocyst
  - acting as a barrier
  - none above

45. The ozone layer is 'ozonosphere' which occurs in  
 a) thermosphere      b) troposphere      c) stratosphere      d) carbon
46. Phytoplanktons in the hydrosere constitute  
 a) members of climax community      b) pioneer community  
 c) intermediate seral members      d) all above
47. Secondary succession occurs on  
 a) burnt lands      b) lumbered lands      c) cut wood lands      d) all of these
48. Ozone hole is  
 a) absence of O<sub>3</sub> in troposphere      b) absence of O<sub>3</sub> in stratosphere  
 c) deficiency of O<sub>3</sub> in stratosphere      d) deficiency of O<sub>3</sub> in troposphere
49. It is considered poor man's timber  
 a) mango wood      b) bamboo      c) acacia wood      d) eucalyptus wood
50. The term taxon was given by  
 a) Meyer      b) Linnaeus      c) Lamarck      d) De Candolle
51. Whittaker's classification is based on  
 a) Cell structure      b) body structure      c) nutrition      d) all the above
52. Science of algae is  
 a) Phycology      b) both a and b  
 c) Mycology      d) only one filament is involved in process
53. Bacetrial cell wall is composed of  
 a) Lipid      b) chitin  
 c) cellulose      d) mucopeptide /peptidolycan
54. Metametism is characteristic of  
 a) Platyhelminthes      b) mollusca      c) porifera      d) annelid
55. Pollination occurs in  
 a) Bryophytes and angiosperms      b) pteridophytes and angiosperms  
 c) angiosperms and gymnosperms      d) angiosperms and fungi
56. Simple tissues are  
 a) Parenchyma, xylem, collenchymas      b) Parenchyma, collenchymas, sclerenchyma  
 c) Parenchyma, xylem, sclerenchyma      d) Parenchyma, xylem, phloem
57. Exarch primary xylem is a feature of  
 a) All leaves      b) Dicot stems      c) Monocot stems      d) All roots
58. Lysosome originate from  
 a) Golgi complex      b) Smooth endoplasmic reticulum  
 c) Both a and b      d) None of these
59. Photosynthesis is a  
 a) Reductive, endergonic, catabolic process  
 b) Reductive, endergonic, anabolic process  
 c) Reductive, exergonic, catabolic process  
 d) Oxidative, exergonic, catabolic process
60. Dentition in man is said to be Thecodont because  
 a) There are two sets of teeth  
 b) There are different types of teeth  
 c) Root and crown are distinct  
 d) Teeth are set in sockets