



## MOCK CET - 2015

DATE	SUBJECT	TIME
21.04.2015	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-2	

### 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 – 2

1. Micropropagation is a technique for production of
  - a) True to type plants
  - b) Haploid plants
  - c) Somatic hybrids
  - d) Somaclonal plants
2. Vegetative propagation by leaves is found in
  - a) *Albizzia lebbek*
  - b) *Dalbergia sisso*
  - c) *Bryophyllum diagamontianum*
  - d) *Murraya sp*
3. Pollen of anemophilous plants are
  - a) Large and heavy
  - b) Small and sticky
  - c) Small, dry and unwettable
  - d) Large, light and hygroscopic
4. Allogamy is favoured by
  - a) Homogamy
  - b) Cleistogamy
  - c) Monocliny
  - d) Dicliny
5. The point at which funiculus touches the ovule is
  - a) Chalaza
  - b) Hilum
  - c) Raphe
  - d) Endothelium
6. A diploid egg, formed in embryo sac developed directly from nucellus, parthenogenetically grows into embryo. The apomixis is
  - a) Vegetative apomixes
  - b) Adventitive apomixes
  - c) Diplospory
  - d) Apospory
7. Based on entry of pollen tube into ovule, which one is misogamy
  - a) through micropyle
  - b) through placenta and funiculus
  - c) through integument
  - d) Entry through funiculus, chalaza and embryo sac from egg apparatus end
8. Give below are assertion and reason. Point out if both are true and the reason is correct explanation (A), both are true but reason is not correct explanation (B), assertion is true but reason is wrong (C) and both are wrong (D). **Assertion.** In a woman after hysterectomy (removal of uterus), the ovarian cycle is stopped. **Reason.** Stoppage of FSH secretion
  - a) A
  - b) B
  - c) C
  - d) D
9. Which differentiates a sperm from egg
  - a) Cytoplasm is more abundant in sperm than in egg
  - b) Accessory membranes are absent in sperm but present in egg
  - c) Nucleus is clear in sperm and very compact in egg
  - d) Mitochondria form a sheath in egg and diffused in sperm
10. Which hormone is not produced by corpus luteum
  - a) Progesterone
  - b) Estradiol
  - c) Inhibin
  - d) Relaxin
11. Which is not a function of Sertoli cells
  - a) Nurse cells to sperms
  - b) Secreting hormone Inhibin
  - c) Formatting a manchette
  - d) Secreting testicular fluid for sperm transport
12. Time for conception chance in women starting from day of menstruation
  - a) 4<sup>th</sup> day
  - b) 14<sup>th</sup> day
  - c) 26<sup>th</sup> day
  - d) 1<sup>st</sup> day
13. Sexually transmitted disease affecting both males and female genitals which often damages eyes of babies born to infected mothers
  - a) Syphilis
  - b) Gonorrhoea
  - c) Hepatitis
  - d) AIDS
14. Match the columns and select the correct option

I	II
a) Chemical	p) tubectomy and Vasectomy
b) IUDs	q) copper T and Loop
c) Barriers	r) condom and Cervical cap

d) Sterilization	s) spermicidal jelly and foam t) coitus interruptus and calendar method
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- a) a-s, b-t, c-q, d-r      b) a-p, b-r, c-q, d-t      c) a-s, b-q, c-t, d-p      d) a-s, b-q, c-r, d-p
15. Mendel was successful in discovering the principles of inheritance as  
 a) He took pea plants for his experiments  
 b) He was a mathematician  
 c) He did not encounter linkage  
 d) He had an indepth knowledge on hybridization
16. In the cross YYRRxyyrr, the number of green coloured seeds in F<sub>2</sub> generation is  
 a) 8/16                      b) 6/16                      c) 4/16                      d) 2/16
17. Sickle cell anaemia is caused by substitution of sixth position  
 a) Valine by Glutamic acid in  $\alpha$ -chain of Hb  
 b) Valine by Glutamic acid in  $\beta$ -chain of Hb  
 c) Glutamic acid by valine in  $\alpha$ -chain of Hb  
 d) Glutamic acid by valine in  $\beta$ -chain of Hb
18. A monosomic (2N-1) abnormality in human is  
 a) Klinefelter's syndrome                      b) Turner's syndrome  
 c) Edward's syndrome                      d) Down's syndrome
19. In DNA replication, the leading strand is the one which replicates in  
 a) 5'→3' direction continuously              b) 3'→5' direction continuously  
 c) 5'→3' direction discontinuously              d) 3'→5' direction discontinuously
20. Hargobind Khorana was awarded Nobel prize for  
 a) Deciphering genetic code                      b) Artificial gene synthesis  
 c) Nucleotide sequence of tRNA                      d) Discovery of transposons
21. Site for protein synthesis is  
 a) Nucleus                      b) Cytosol                      c) Ribosome                      d) Lysosomes
22. What is true of tRNA?  
 a) It binds with an amino acid at its 3' end  
 b) It has five double stranded regions  
 c) It has a codon at one end which recognizes anticodon of mRNA  
 d) It looks like clover leaf in 3-dimensional structure
23. Which one is correct matching  
 a) Sequence of three nitrogen bases determining a single amino acid  
 b) A set of closely placed genes regulating a metabolic pathway in prokaryotes  
 c) Segment of DNA specifying a polypeptide  
 d) Gene responsible for switching on and switching off of other genes
24. Primary atmosphere was  
 a) Reducing                      b) Oxidizing                      c) Rich in ozone                      d) Rich in NO<sub>2</sub>
25. Miller and Urey performed an experiment to prove the origin of life. They took gases ammonia and hydrogen along with  
 a) N<sub>2</sub> and H<sub>2</sub>O                      b) CH<sub>4</sub> and N<sub>2</sub>                      c) H<sub>2</sub>O and CH<sub>4</sub>                      d) CO<sub>2</sub> and NH<sub>3</sub>
26. Tendrils in plants are an example of  
 a) Adaptive radiation                      b) Co-evolution  
 c) Convergent evolution                      d) divergent evolution
27. Which is vestigial structure in man  
 a) Caecum                      b) Pinna of ear                      c) Wisdom tooth                      d) Muscles of glottis
28. Genetic drift  
 a) Is random change in gene frequency

- b) Has nothing in common with inbreeding  
 c) Is an orderly change in gene frequency  
 d) Produces greatest fluctuations in large populations
29. Gene pool of a population tends to remain stable if the population is large, without large scale mutations, without migration and with  
 a) Random mating  
 b) Moderate environmental changes  
 c) Natural selection  
 d) reduction in predators
30. The letter T in T-lymphocytes refers to  
 a) Thyroid  
 b) Thymus  
 c) Thalamus  
 d) Tonsil
31. What is correct?  
 a) Malignant tumours may exhibit metastasis  
 b) Patients who have undergone surgery are given cannabinoids to relieve pain  
 c) Benign tumours show metastasis  
 d) Heroin accelerates body functions
32. Treatment of cancer can be made by  
 a) Radiation therapy  
 b) Surgery  
 c) Immunotherapy  
 d) All the above
33. Which one of the following statements is correct with respects to AIDS?  
 a) Drug addicts are least susceptible to HIV infection  
 b) AIDS patients are being fully cured cent percent with proper care and nutrition  
 c) The causative HIV retrovirus enters helper T-lymphocytes thus reducing their number  
 d) HIV can be transmitted through eating food together with an infected person
34. Opiate narcotic drugs are  
 a) Analgesic  
 b) Hypnotic  
 c) Antihistamine  
 d) Antianxiety
35. Given below are assertion and reason. Point out if both are true with reason being correct explanation (A), both are true but reason is not correct explanation (B), assertion is true but reason is wrong (C) and both are wrong (D)  
 a) A  
 b) B  
 c) C  
 d) D
36. Final stage of tissue culture before new plants are taken out for cultivation is  
 a) Micropropagation  
 b) Caulogenesis  
 c) Hardening  
 d) Embryogenesis
37. During lactic acid fermentation  
 a)  $O_2$  is used,  $CO_2$  is liberated  
 b) Neither  $O_2$  is used nor  $CO_2$  liberated  
 c)  $O_2$  is not used,  $CO_2$  is liberated  
 d)  $O_2$  is used,  $CO_2$  is not liberated
38. The product of which has been commercialized for lowering blood cholesterol  
 a) *Trichoderma polysperma*  
 b) *Monascus purpureus*  
 c) *Saccharomyces cerevisiae*  
 d) *Aspergillus niger*
39. In gobar gas, the maximum amount is that of  
 a) Propane  
 b) Methane  
 c) Butane  
 d) Carbon dioxide
40. Gene encoding Bt protein, specific for cotton bollworm is  
 a) cry II Ac  
 b) cry II Ab  
 c) cry I Ac  
 d) cry II Abc
41. RNA interference is useful for  
 a) Micropropagation  
 b) Cell defence  
 c) Cell proliferation  
 d) Cell differentiation
42. Enzyme Taq polymerase is obtained from  
 a) *Thermos aquaticus*  
 b) *Trichoderma aquatic*  
 c) *Tremetes aquaticus*  
 d) all the above
43. Restriction endonucleases are obtained from  
 a) Bacteria  
 b) All prokaryotic cells  
 c) Bacteriophages  
 d) Plasmids
44. A condition in which body's internal environment remains relatively constant within limits is  
 a) Hematoma  
 b) Haemopoiesis  
 c) Homeostasis  
 d) Hemostasis
45. Adaptive measure to protect against extreme heat by poikilotherms is  
 a) Hibernation  
 b) Sweating  
 c) Aestivation  
 d) Coiling
46. Population growth is indicated by

- a) Emigration                      b) Mortality                      c) Natality                      d) All the above
47. Which is not recycled in ecosystem  
a) Emigration                      b) Water                      c) Energy                      d) Oxygen
48. Green house gases include  
a) CO<sub>2</sub>, CFC, CH<sub>4</sub> and N<sub>2</sub>O                      b) CO<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>, NO<sub>2</sub> and NH<sub>3</sub>  
c) CH<sub>4</sub>, N<sub>2</sub>, CO<sub>2</sub> and NH<sub>3</sub>                      d) CFC, CO<sub>2</sub>, NH<sub>3</sub> and N<sub>2</sub>
49. Schleiden and Schwann proposed  
a) Brownian movement                      b) Cell theory  
c) Protoplasm as physical basis of life                      d) None of the above
50. An enucleated plant cell is  
a) RBC                      b) Sieve Tube cell                      c) Companion cell                      d) Xylem parenchyma
51. Synaptonemal complex is formed during  
a) Leptotene                      b) Pachytene                      c) Diakinesis                      d) Zygotene
52. The cell becomes turgid in solution which is  
a) Hypertonic                      b) Isotonic                      c) Hypotonic                      d) None of the above
53. Micronutrients are  
a) Mn, Ni, Zn                      b) Mg, Mn, Mo                      c) Cu, B, O                      d) Ca, S, Fe
54. Chlorophyll-a occurs in  
a) All photosynthetic autotrophs                      b) In all higher plants  
c) All oxygen liberating autotrophs                      d) All plants except fungi
55. Growth hormone responsible for apical dominance is  
a) Auxin                      b) Cytokinin                      c) Gibberellin                      d) Ethylene
56. Enzyme which does not directly act upon food substrate is  
a) Trypsin                      b) Lipase                      c) Enterokinase                      d) Amylopsin
57. Majority of CO<sub>2</sub> produced by our body cells is transported to lungs  
a) Attached to haemoglobin                      b) Dissolved in blood  
c) As bicarbonates                      d) As carbonates
58. Effect of prolactin hormone is on  
a) Liver                      b) Pancreas                      c) Mammary glands                      d) Bones
59. Bacteria are considered plants as they  
a) Are green in colour                      b) Have rigid cell  
c) Have chlorophyll                      d) Have stomata
60. Intercalary meristem occurs in  
a) Mint                      b) Grass                      c) Pinus leaf                      d) All the above