COMMON ENTRANCE TEST – 2017

<table>
<thead>
<tr>
<th>DATE</th>
<th>SUBJECT</th>
<th>TIME</th>
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<tbody>
<tr>
<td>02-05-2017</td>
<td>BIOLOGY</td>
<td>10.30 am to 11.50 am</td>
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<tr>
<th>MAXIMUM MARKS</th>
<th>TOTAL DURATION</th>
<th>MAXIMUM TIME FOR ANSWERING</th>
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<tbody>
<tr>
<td>60</td>
<td>80 Minutes</td>
<td>70 Minutes</td>
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MENTION YOUR CET NUMBER

QUESTION BOOKLET DETAILS

VERSION CODE / SERIAL NUMBER

XXXXXXX

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 the 2nd bell i.e., after 10.30 am.
3. The Version Code / Serial Number of this question booklet should be entered on the OMR Answer Sheet and the respective circles should also be shaded completely.
4. Compulsorily affix the complete signature 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 3rd Bells rings at 10.40 am, till then;
   - Do not remove the seal 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 distracters. (Four different options / choices.)
2. After the 3rd Bell is rung at 10.40 am, remove the seal on the right hand side of this question booklet and check that this booklet does not have any unprinted or torn or missing pages or items etc., if so, get it replaced immediately by complete test booklet by showing it to Room Invigilator. Read each item 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 OMR answer sheet.

Correct Method of shading the circles on the OMR Answer Sheet is:

4. Please note that even a minute unintended ink dot on the OMR Answer Sheet will also be recognized and recorded by the scanner. Therefore, avoid multiple markings of any kind on the OMR Answer 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 11.50 am, 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 the top sheet (KEA 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 year.
10. In case of any discrepancy in the English and Kannada versions, the English version will be taken as final.
1. Identify the ‘order’ from the following:
   (A) Carnivora   (B) Muscidae
   (C) Insecta    (D) Panthera

2. Which of the following options show the characters of mycoplasma?
   (A) Smallest living cell without cell wall survive with oxygen.
   (B) Smallest living cell with cell wall survive with oxygen.
   (C) Smallest living cell without cell wall survive without oxygen.
   (D) Smallest living cell with cell wall survive without oxygen.

3. Which class of Algae reproduces asexually by non-motile spores and sexually by non-motile gametes?
   (A) Rhodophyceae   (B) Phaeophyceae
   (C) Chlorophyceae  (D) Cyanophyceae

4. Which of the following plants produce zygomorphic flowers?
   (A) Hibiscus   (B) Canna
   (C) Gulmohar   (D) Mustard

5. The secondary wall material Suberin is deposited on the walls of
   (A) Pericycle of stem and endodermis of root
   (B) Phellum of stem and endodermis of root
   (C) Epidermis of stem and endodermis of root
   (D) Phellogen and phelloderm
6. The type of epithelium found in the fallopian tube which functions to move particles or mucous in specific direction is:
(A) Squamous epithelium
(B) Cuboidal epithelium
(C) Ciliated epithelium
(D) Columnar epithelium

6. Which one of the following is not included under endomembrane system?
(A) Endoplasmic reticulum
(B) Mitochondria
(C) Lysosome
(D) Vacuole

7. In the following diagrammatic representation of a standard ECG the ‘T’ represents.

(A) Depolarisation of Atria
(B) Depolarisation of Ventricles
(C) Repolarisation of Atria
(D) Repolarisation of Ventricles

7. Which of the following is not a characteristic of facilitated transport?
(A) Uphill transport
(B) Highly selective
(C) Requires special membrane proteins
(D) Transport saturates

8. Identify the elements whose deficiency causes both necrosis and chlorosis.
(A) Mg, K
(B) Mo, Ca
(C) Fe, Mn
(D) Cu, Co

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11. The outcome of Calvin cycle include:
(A) $6 \text{CO}_2$, 18 ATP, 12 NADPH  
(B) One glucose, 18 ATP, 12 NADPH  
(C) $6 \text{CO}_2$, 18 ADP, 12 NADP  
(D) One glucose, 18 ADP, 12 NADP

Question Id: 11

12. The number of ATP molecules utilised for the breakdown of one molecule of glucose during glycolysis is:
(A) 4  
(B) 2  
(C) 6  
(D) 8

Question Id: 12

13. Match the enzymes of Column-I with the functions of Column-II. Choose the correct option:
<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
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<tbody>
<tr>
<td>1. Enterokinase</td>
<td>p. digests milk proteins</td>
</tr>
<tr>
<td>2. Rennin</td>
<td>q. digests carbohydrates</td>
</tr>
<tr>
<td>3. Amylase</td>
<td>r. activates trypsinogen</td>
</tr>
<tr>
<td>4. Lipase</td>
<td>s. acts on nucleic acids t. breakdown fats</td>
</tr>
</tbody>
</table>

(A) 1-r, 2-p, 3-q, 4-t  
(B) 1-r, 2-p, 3-t, 4-q  
(C) 1-s, 2-p, 3-t, 4-q  
(D) 1-s, 2-q, 3-p, 4-t

Question Id: 13

14. The volume of air inspired or expired by a healthy man per minute is:
(A) 1000 ml - 1100 ml  
(B) 2500 ml - 3000 ml  
(C) 6000 ml - 8000 ml  
(D) 400 ml - 500 ml

Question Id: 14

15. The blood cell that secretes histamine, serotonin and heparin is:
(A) Neutrophil  
(B) T-lymphocyte  
(C) Killer cell  
(D) Basophil

Question Id: 15
16. The hormones involved in maintaining calcium balance in the human body are:
(A) PTH and TCT  (B) PTH and LTH  
(C) TCT and FSH  (D) MSH and ACTH  

17. Amoeba is immortal because:
(A) it is multicellular  (B) it is microscopic  
(C) it reproduces by sexual method only  
(D) parental body is distributed among the offsprings during binary fission  

18. Which of the following is not a pre-fertilisation events in higher organisms?
(A) Gametogenesis  (B) Gamete transfer  
(C) Meiosis  (D) Cleavage  

19. If a tetraploid plant contains 48 chromosomes in its nucellus, then number of chromosomes in the egg cell and in a synergid respectively:
(A) 48 and 48  (B) 24 and 24  
(C) 24 and 48  (D) 48 and 24  

20. Pollen grains are generally spherical, measuring about:
(A) 25-50 micrometers  (B) 25-50 millimeters  
(C) 25-50 nanometers  (D) 25-50 centimeters  

21. Which of the following characters is not required for autogamy?
(A) Flowers require synchrony in pollen release and stigma maturation.  
(B) Anthers and stigma should lie close to each other.  
(C) Flowers should be bisexual.  
(D) Required pollination agents.
22. Which one of the following character favours the process of normal spermatogenesis in human male?
(A) Descent of testes into scrotum  
(B) Testes remain in the abdominal cavity  
(C) Infection by mumps virus during childhood  
(D) Increased scrotal temperature

23. Accessory ducts of reproductive system of human female include:
(A) Oviduct, uterus & vagina  
(B) Oviduct, ovaries & ovarian ligaments  
(C) Oviduct, ovaries & mammary glands  
(D) Ovaries, uterus & vagina

24. In human females, the number of primary follicles left in each ovary at puberty is:
(A) 3000 – 30,000  
(B) 30,000 – 60,000  
(C) 60,000 – 80,000  
(D) 1,50,000 – 1,60,000

25. Implantation is influenced by
(A) FSH  
(B) LH  
(C) Progesteron  
(D) Relaxin

26. In India the action plans for family planning were initiated in the year:
(A) 1972  
(B) 1947  
(C) 1951  
(D) 1950

27. The inner cell mass of blastocyst becomes:
(A) extraembryonic membranes  
(B) differentiated into embryo proper  
(C) chorionic villi  
(D) placenta
28. Example for autosomal hyper aneuploidy is:
   (A) Down's syndrome
   (B) Klinefelter's syndrome
   (C) Turner's syndrome (D) Haemophilia

29. In dihybrid cross, when F₁ plants (RrYy) are self hybridised, the ratio of segregation of yellow and green in F₂ is:
   (A) 1:2:1
   (B) 3:1
   (C) 9:3:3:1
   (D) 1:1:1:1

30. Replacement of which one of the following nucleotides in the HbA gene causes sickle cell anaemia?
   (A) A to T
   (B) T to A
   (C) U to A
   (D) C to G

31. The type of sex determination in honey bee is:
   (A) Haplo-diploidy
   (B) Haploidy
   (C) Diploidy
   (D) ZZ-ZW

32. Match the number of nucleotides of genome of Column-I with the organisms of Column-II. Choose the correct option given below:
   Column-I        Column-II
   1. 5386 nucleotides  p. E.coli
   2. 48502 bp          q. man
   3. 4.6×10⁶ bp        r. Drosophila
   4. 3.3×10⁹ bp        s. φ × 174 bacteriophage
                        t. bacteriophage - lambda

   (A) 1-s, 2-q, 3-p, 4-t
   (B) 1-s, 2-p, 3-q, 4-r
   (C) 1-s, 2-t, 3-p, 4-q
   (D) 1-r, 2-t, 3-s, 4-p

33. The average length of hnRNA in humans is,
   (A) 3000 bases
   (B) 2.4 million bases
   (C) 1500 bases
   (D) 500 bases
34. If E.coli is allowed to grow for 40 minutes in a medium containing $^{15}N$, then the number of $^{14}/^{15}N$ containing DNA would be:
(A) zero  (B) 20
(C) 10  (D) 2

35. Polymerisation of DNA nucleotides during the synthesis of lagging strand occurs in:
(A) 3' → 5' direction  (B) 5' → 3' direction
(C) Any direction  (D) promoter to terminator direction

36. In lac-operon concept of gene expression, allolactose acts as,
(A) repressor  (B) inducer
(C) co-repressor  (D) co-enzyme

37. The anticodon found on the t-RNA for tryptophan amino acid is
(A) ACC  (B) UGG
(A) UCC  (D) CUU

38. Which one of the following is the identifiable character of Neanderthal man?
(A) brain capacity 650 cc-800 cc  
(B) developed pre-historic cave art  
(C) lived before 2 million years ago  
(D) buried their dead.

39. Identify the plants that are dominant during Jurassic period.
(A) Angiosperms and Bryophytes  
(B) Sphenopsida and Ginkgos  
(C) Ferns, Conifers and Cycads  
(D) Monocotyledons and Arborescent lycopods
40. In humans, common cold is caused by:
   (A) Retrovirus   (B) Baculovirus
   (C) Rhinovirus   (D) Rhabdovirus

41. Which of the following vector-borne diseases caused by Aedes mosquitoes?
   (A) Ascariasis and Filariasis
   (B) Malaria and Sleeping sickness
   (C) Dengue and Chikungunya
   (D) Kala azar and Filariasis

42. Morphine is obtained from the:
   (A) Inflorescence of Cannabis
   (B) Leaves of Erythroxylum
   (C) Latex of Poppy plant
   (D) Root of Atropa

43. Inbreeding depression occurs due to continuous
   (A) Intra-breeding   (B) Inter-breeding
   (C) Inter-generic breeding
   (D) Inter-specific breeding

44. Identify the correct combination of crop-variety and insect pests.
   (A) Okra – Pusa sawani – Shoot and Fruit borer
   (B) Flat bean – Pusa Gaurav – Fruit borer
   (C) Brassica – Pusa A-4 – Aphids
   (D) Brassica – Pusa sem-3 – Jassids

45. Which of the following crop is developed by mutation breeding, that is resistant to yellow mosaic virus and powdery mildew?
   (A) Cow-pea   (B) Okra
   (C) Chilli   (D) Mung bean
46. Which one of the following has been commercialised as blood-cholesterol lowering agent?
(A) Streptokinase  (B) Cyclosporin-A  
(C) Statins  (D) α-Trypsin-A

47. As the organic matter increases in a water body, the BOD:
(A) increases  (B) decreases  
(C) remains unchanged  (D) not a parameter

48. Restriction endonucleases are isolated from some bacteria. Their role in bacteria is:
(A) defence against virus  (B) synthesis of proteins  
(C) act as genetic material  (D) help in reproduction

49. From which bacterium the REN-Sal-I is isolated?
(A) Escherichia coli  (B) Streptococcus aureus  
(C) Haemophilus influenzae  (D) Streptomyces albus

50. A transformed bacterium with human gene, fails to produce desired protein. The reason could be:
(A) Human gene may have intron which bacteria cannot process.  
(B) Amino acid codons for human and bacteria differ.  
(C) Human protein is formed but degraded by bacteria.  
(D) The bacterial promotor gene cannot induce transcription of human gene.
51. Read the statements 1 and 2. Choose the correct option:
Statement 1: RNAi take place in all prokaryotic and eukaryotic organisms as a method of cellular defence.
Statement 2: RNA interference is a pre-translational process.
(A) Statement-1 incorrect, statement-2 correct.
(B) Statement-1 correct, statement-2 incorrect.
(C) Both statements are correct.
(D) Both statements are incorrect.

Question Id: 51

52. The human protein α-1 antitrypsin is obtained from:
(A) transformed bacteria
(B) transgenic animal
(C) transgenic plant
(D) a plant from Western Ghats

Question Id: 52

53. Psammophytes are growing in/on
(A) Rock
(B) Deserts
(C) Water
(D) Shades

Question Id: 53

54. A plant shows the following modifications:
(i) leaves covered with dense hairs
(ii) leaf surface shiny or glabrous
(iii) leaf blade remains rolled during day
The adaptation of the plant is to:
(A) conserve water
(B) prevent excessive heat
(C) check transpiration
(D) absorb water

Question Id: 54
55. Mac Arthur’s vision of 5 closely related species of warblers living on same tree were able to avoid competition and co-exist by behavioural difference. This is an example for:
(A) Competitive release
(B) Resource partitioning
(C) Competitive exclusion principle
(D) Adaptive radiation

56. Climax community is a state of:
(A) non-equilibrium
(B) near equilibrium
(C) pioneer species
(D) changing community

57. The process of decomposition delays when,
(A) the detritus is made up of sugars and nitrogen compounds.
(B) aeration is sufficient.
(C) warm and moist environment exists.
(D) detritus is rich in lignin and chitin.

58. The variety of indigenous cows is an example for:
(A) Genetic diversity
(B) Species diversity
(C) Ecological diversity
(D) Microbial diversity

59. So far 1.5 million species are identified, in which the number of fungi species identified is more than the combined total of:
(A) Algae, lichens, mosses and ferns
(B) Fishes, amphibians, reptiles and mammals
(C) Molluscans and crustaceans
(D) Molluscs, fishes and amphibians
60. The safe method of disposal of e-waste is:
   (A) incineration  
   (B) burning in open field  
   (C) thrown into water  
   (D) dumping in forest

   Question Id: 60


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<th>ಸಮಯ</th>
<th>ಕಂಪೆನಿ</th>
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<td>02-05-2017</td>
<td>ಸಂಪರ್ಕ</td>
<td>10.30 ರಾತ್ರಿ 11.50 ಗುಂಡಾರ</td>
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ಕೃತಿ: 60 ಹೆಚ್ಚು, 80 ಹೆಚ್ಚು ಎತ್ತರ ವಿದ್ಯಾರ್ಥಿಗಳ ಪತ್ರದ ಸ್ಥಾನ ಮತ್ತು/ಅಥವಾ ಸ್ಥಾನದ ವಿವಿಧತೆಗಳಿಗೆ.

ಮಾಹಿತಿ:
1. ಕೃತಿಗೆರೆ ಸಂಬಂಧಿಸಿದ ದಿನ ವಾರ, ಸಮಯ, ಕಂಪೆನಿ, ಸಂಖ್ಯೆಯಾದ ಅವಶ್ಯಕ ವಿಭಾಗದಿಂದ ರೂಪಾಂತರಿಸಿದೆ ಅಥವಾ ರೂಪಾಂತರಿಸಲು ಸಂ೦ಧಿಸಿದ್ದೆಂದು ಸೂಚಿಸಲಾಗಿದೆ.
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