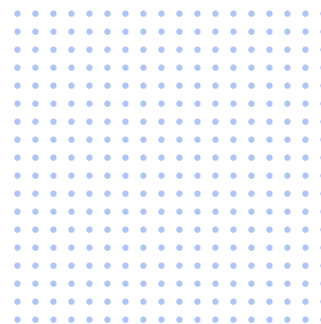




FOR KUET EXAM PREPARATION

KUET 2023

Question Paper · M.Sc. Microbiology

EXAM	YEAR	TYPE	SUBJECT
KUET	2023	Question Paper	M.Sc. Microbiology

Sr. No.

ENTRANCE TEST-2023**SCHOOL OF BIOLOGICAL SCIENCES****MICROBIOLOGY**

Question Booklet Series

A

Total Questions : 60

Time Allowed : 70 Minutes

Roll No. :

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Instructions for Candidates :

1. Write your Entrance Test Roll Number in the space provided at the top of this page of Question Booklet and fill up the necessary information in the spaces provided on the OMR Answer Sheet.
2. OMR Answer Sheet has an Original Copy and a Candidate's Copy glued beneath it at the top. While making entries in the Original Copy, candidate should ensure that the two copies are aligned properly so that the entries made in the Original Copy against each item are exactly copied in the Candidate's Copy.
3. All entries in the OMR Answer Sheet, including answers to questions, are to be recorded in the Original Copy only.
4. Choose the correct / most appropriate response for each question among the options A, B, C and D and darken the circle of the appropriate response completely. The incomplete darkened circle is not correctly read by the OMR Scanner and no complaint to this effect shall be entertained.
5. Use only blue/black ball point pen to darken the circle of correct/most appropriate response. In no case gel/ink pen or pencil should be used.
6. Do not darken more than one circle of options for any question. A question with more than one darkened response shall be considered wrong.
7. There will be '**Negative Marking**' for wrong answers. Each wrong answer will lead to the deduction of 0.25 marks from the total score of the candidate.
8. Only those candidates who would obtain positive score in Entrance Test Examination shall be eligible for admission.
9. Do not make any stray mark on the OMR sheet.
10. Calculators and mobiles shall not be permitted inside the examination hall.
11. Rough work, if any, should be done on the blank sheets provided with the question booklet.
12. OMR Answer Sheet must be handled carefully and it should not be folded or mutilated in which case it will not be evaluated.
13. Ensure that your OMR Answer Sheet has been signed by the Invigilator and the candidate himself/herself.
14. At the end of the examination, hand over the OMR Answer Sheet to the invigilator who will first tear off the original OMR sheet in presence of the Candidate and hand over the Candidate's Copy to the candidate.

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☒**[Turn over**

1. According to Pasteur's statements which one of the following is true ?
 - (A) Living organisms discriminate between stereoisomers
 - (B) Fermentation is caused by microorganisms
 - (C) Living organisms don't discriminate between stereoisomers
 - (D) Both (A) and (B)
2. The light emitting luminescent bacteria is :
 - (A) *Vibrio fischeri*
 - (B) *Photobacterium phosphoreum*
 - (C) *Vibrio anguillarum*
 - (D) All of the above
3. Salt and sugar preserve foods because they :
 - (A) increase osmotic pressure
 - (B) Produce a hypertonic environment
 - (C) Deplete nutrient
 - (D) Both (A) and (B)
4. Father of microbiology is :
 - (A) Louis Pasteur
 - (B) Lister
 - (C) A.V. Leeuwenhoek
 - (D) Robert Koch
5. Compound microscope was discovered by :
 - (A) Antonie van Leeuwenhoek
 - (B) Louis Pasteur
 - (C) Johnsen & Hans
 - (D) None of these
6. The main feature of prokaryotic organism is :
 - (A) Absence of locomotion
 - (B) Absence of nuclear envelope
 - (C) Absence of nuclear material
 - (D) Absence of protein synthesis
7. Mycoplasmas are bacterial cells that :
 - (A) Fail to reproduce on artificial media
 - (B) Have a rigid cell wall
 - (C) Are resistant to penicillin
 - (D) Stain well with Gram's stain
8. Protein particles which can infect are called :
 - (A) Virons
 - (B) Prion
 - (C) Nuclei
 - (D) None of these
9. The colonies produced by *Pseudomonas* on MacConkey's medium are :
 - (A) Purple colored
 - (B) Pink colored
 - (C) Pale colored
 - (D) Green colored
10. Mesosomes are the part of :
 - (A) Plasma membrane
 - (B) ER
 - (C) Mitochondria
 - (D) Golgi apparatus
11. A culture medium the exact composition of which is not known was called as :
 - (A) Simple
 - (B) Enriched
 - (C) Defined
 - (D) Natural

12. The temperature required for pasteurization is :
 (A) Above 100°C
 (B) Below 100°C
 (C) 100°C
 (D) None of these
13. Best method for getting pure culture is :
 (A) Streak-plate
 (B) Sub culture
 (C) Both (A) & (B)
 (D) None of these
14. The major constituent in agar is :
 (A) Lipids
 (B) Amino-acids
 (C) Polysaccharides
 (D) Polypeptides
15. In the synthesis of cell components the major element required is :
 (A) Nitrogen
 (B) Sulphur
 (C) Carbon
 (D) Oxygen
16. In the sigmoid curve (or) growth curve of bacteria, there are _____ stages.
 (A) 3
 (B) 4
 (C) 6
 (D) 7
17. The genetic material in influenza A virus is :
 (A) dsDNA
 (B) dsRNA
 (C) sRNA
 (D) None of these
18. Which of the following is imperfect fungi ?
 (A) Basidiomycetes
 (B) Deuteromycetes
 (C) Zygomycetes
 (D) Ascomycetes
19. Basic principle in industrial microbiology is :
 (A) Suitable growth conditions
 (B) Fermentation
 (C) Providing aseptic conditions
 (D) All of these
20. Submerged fermentations are :
 (A) Batch fermentation
 (B) Continuous fermentation
 (C) Both (A) and (B)
 (D) None of these
21. The organisms which can grow best in the presence of a low concentration of oxygen :
 (A) Aerophilic
 (B) Microaerophilic
 (C) Aerobic
 (D) Anaerobic
22. Plasmids are ideal vectors for gene cloning as :
 (A) They are indispensable for genetic cloning
 (B) They are essential for bacterial reproduction
 (C) They can replicate freely outside the bacterial cell
 (D) They are self replicating within the bacterial cell
23. The utilization of light energy to drive the synthesis of ATP is called as :
 (A) Photolysis
 (B) Phosphorylation
 (C) Photosynthesis
 (D) Respiration

24. Which is the Sulphur containing amino acid ?
 - (A) Methionine
 - (B) Leucine
 - (C) Valine
 - (D) Arginine
25. For the synthesis of amino acids cysteine and methionine the element required is :
 - (A) Sulphur
 - (B) Oxygen
 - (C) Nitrogen
 - (D) None
26. During cyclic phosphorylation NADP is formed or not ?
 - (A) No NADP formation
 - (B) No NADP utilization
 - (C) NADP is converted into NADPH
 - (D) All of the above
27. The compound that is added to the medium to absorb oxygen for the creation of anaerobic conditions :
 - (A) Potassium sulphate
 - (B) Nitrous acid
 - (C) Hydrogen peroxide
 - (D) None
28. The method in which the cells are frozen dehydrated is called :
 - (A) Pasteurization
 - (B) Desiccation
 - (C) Disinfection
 - (D) Lyophilization
29. Choose the correct sequence among the following:
Western blotting, Northern blotting and Southern blotting is a technique used in the determination of :
 - (A) Protein, RNA and DNA
 - (B) RNA, DNA and Protein
 - (C) DNA, RNA and Protein
 - (D) Protein DNA and RNA
30. Malate dehydrogenase enzyme is a :
 - (A) Hydrolase
 - (B) Oxido reductase
 - (C) Transferases
 - (D) Isomerase
31. The distance between each turn in the helical strand of DNA is :
 - (A) 20Å
 - (B) 34Å
 - (C) 42Å
 - (D) 28Å
32. The technique involved in comparing the DNA components of two samples is known as :
 - (A) Monoclonal Ab techniques
 - (B) Recombinant DNA technology
 - (C) Genetic finger printing
 - (D) Polymerase chain reaction
33. What are the first cells to reach the site of a bacterial infection?
 - (A) Neutrophils
 - (B) Dendritic cells
 - (C) Lymphocytes
 - (D) RBCs

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34. The passage of blood cells through the intact walls of the capillaries, typically accompanying inflammation is :
 (A) Anaphylaxis
 (B) Diapedesis
 (C) Phagocytosis
 (D) None of these
35. The antibody that is first formed after infection is :
 (A) IgG
 (B) IgM
 (C) IgD
 (D) IgE
36. The acquired immunity can be developed :
 (A) Artificially
 (B) Naturally
 (C) Both
 (D) None
37. Intensity of attraction between antigen and antibody molecule is known as :
 (A) Affinity
 (B) Avidity
 (C) Synergism
 (D) Precipitation
38. Phagocytosis is carried out by which cells ?
 (A) Neutrophils
 (B) Macrophages
 (C) Dendritic cells
 (D) All of these
39. What is the similarity between IgM and IgG?
 (A) Compliment fixation
 (B) Placental transport
 (C) Heat stability at 56°C
 (D) Sedimentation coefficient
40. The oxidation of which substance in the body yields the most calories ?
 (A) Glucose
 (B) Proteins
 (C) Lipids
 (D) Glycogen
41. Which among the following is not an Archaeobacteria?
 (A) Euryarchaeota
 (B) Korarchaeota
 (C) Thaumarchaeota
 (D) Proteobacteria
42. The Mitochondrial DNA is :
 (A) Circular double stranded
 (B) Circular single stranded
 (C) Linear single stranded
 (D) Linear double stranded
43. The cofactor of the enzyme Ptyalin is :
 (A) Manganese
 (B) Chlorine
 (C) Sodium
 (D) Potassium
44. In denaturation of proteins, the bond which is not broken:
 (A) Disulphide Bond
 (B) Peptide bond
 (C) Hydrogen bond
 (D) Ionic bond
45. Cellulose is made up of the molecules of
 (A) α -glucose
 (B) β -glucose
 (C) Both
 (D) None

46. A holoenzyme is :
(A) Functional unit
(B) Coenzyme
(C) Apoenzyme
(D) All of these
47. The Enzymes catalyzing electron transport are present mainly in the :
(A) Endoplasmic reticulum
(B) Nuclear membrane
(C) Inner mitochondrial membrane
(D) None of these
48. Cyanobacteria are believed to be the free living ancestors of :
(A) Plasmids
(B) Chloroplasts
(C) Fungi
(D) None of these
49. In a food chain, the total amount of living material is depicted by :
(A) Pyramid of biomass
(B) Pyramid of energy
(C) Pyramid of number
(D) Trophic levels
50. The particulate matter in the air can lead to :
(A) Rise in blood pressure
(B) Impaired kidneys
(C) Impaired nervous system
(D) Aggravated respiratory diseases
51. The water potential of a pure water is :
(A) 1
(B) -2
(C) Zero (0)
(D) None
52. The process of successful establishment of the species in a new area is called :
(A) Sere
(B) Climax
(C) Invasion
(D) Ecesis
53. Which is the first transgenic plant developed ?
(A) Transgenic Tobacco
(B) Transgenic Soyabean
(C) Transgenic Cotton
(D) Transgenic Maize
54. The term totipotency is the capability of :
(A) Cells to generate whole plant
(B) Bud to generate whole plant
(C) Seed to generate whole plant
(D) None of the above
55. Which enzyme is used by Agrobacterium for growth?
(A) Auxin
(B) Cytokinin
(C) Opine
(D) All of the above
56. Synthesis of hydrolyzing enzymes during germination is induced by :
(A) Indole-3-acetic acid
(B) Absciscic Acid
(C) Ethylene
(D) Gibberellic Acid

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57. Which of the following is not a measure of central tendency ?
- (A) Standard deviation
 - (B) Mean
 - (C) Mode
 - (D) Median
58. The probability of occurrence of an event lies between :
- (A) -1 and 0
 - (B) 0 and 1
 - (C) -1 and 1
 - (D) Exactly 1
59. Which of the following correlation coefficient value is considered as weak ?
- (A) 0.5
 - (B) 2
 - (C) 0.2
 - (D) 0.4
60. The standard error is a measure of
- (A) The standard error is computed from known sample statistics
 - (B) Representative sample parameter is likely to be of the population parameter
 - (C) It provides an unbiased estimate of the standard deviation of the statistic
 - (D) All of the above

ROUGH WORK**SM-29582-A****8**
☒**63**