SEAL

Mse in Applied microbiology CodeNo (488)

| Set No. 1 | 17P/292/24 | Question Booklet No |
|---|---|----------------------------|
| (To be fi | lled up by the candidate by blue/b | lack ball-point pen) |
| Roll No. | | |
| Roll No. (Write the digits in words) | 2017 | 192. |
| Serial No. of OMR Answer St | reet | |
| Day and Date | *************************************** | (Signature of Invigilator) |

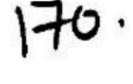
INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the Answer Sheet)

- Within 30 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that
 it contains all the pages in correct sequence and that no page/question is missing. In case of faulty
 Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a
 fresh Question Booklet.
- Do not bring any loose paper, written or blank, inside the Examination Hall except the Admit Card without its envelope.
- 3. A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.
- 4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
- 5. On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.
- No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR Sheet No. on the Question Booklet.
- Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
- 8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.
- For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
- 10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).
- For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
- 12. Deposit only the OMR Answer Sheet at the end of the Test.
- 13. You are not permitted to leave the Examination Hall until the end of the Test.
- 14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

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[No. of Printed Pages: 20+2





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17P/292/24 Set No. 1

No. of Questions: 120

Time: 2 Hours Full Marks: 360

Note:

(40)

- (1) Attempt as many questions as you can. Each question carries 3 marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.
- (2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one
- 1. Specific immunity can be acquired either naturally or artificially and involves

1

- (1) antibodies
- (2) antigens
- (3) the classical complement pathway

.. . . .

- (4) All of these
- Which does not provide long-term immunity?
 - (1) Artificially acquired active immunity
 - (2) Artificially acquired passive
 - (3) Naturally acquired active immunity
 - (4) None of these

(P.T.O.)



| 3. | | following is the r % of the immunog | | The state of the s | lin | in human serum, |
|------|------------------------------|--|--------|--|------|------------------|
| | (1) IgA | (2) IgD | (3) 1 | lgG | (4) | IgM |
| 4. | Which immunoglo | bulin is the least | preva | lent? | | |
| | (1) IgA | (2) IgD | (3) | IgE | (4) | lgM |
| 5. | Which one of the | following is useful | to S | TIMULATE an | tibo | dy production? |
| | (1) An adjuvant | (2) A hapten | (3) | Antiserum | (4) | Purified antigen |
| 6. | Which one of the | following is a free | -livin | g nitrogen fixi | ng c | organism? |
| | (1) Rhizobium | (2) Azotobacter | (3) | E. coli | (4) | Bacillus sp. |
| 7. | The major advant | age of plant with | VAM | is | | |
| | (1) increased N ₂ | absorption | (2) | increased P al | bsot | ption |
| | (3) increased K a | bsorption | (4) | increased Mn | abs | sorption |
| 8. | Which one of the | following is N ₂ fix | ding a | ctinomycetes? | | |
| | (1) Acetobacter | (2) Azotobacter | (3) | Frankia | (4) | Azospirillum |
| 9. | Example of benef | ficial microbe-plant | t-soil | interactions is | ì | |
| | (1) organic matte | | | symbiotic nitr | | n fixation |
| | (3) mycorrhizal f | | (4) | All the above | аге | true |
| 10. | - disease of | plants to be recogn | nized | as | | |
| 10. | (1) tobacco mos | | | | | virus |
| | (3) sugarcane m | osaic virus | (4) | bean mosaic | viru | ıs |
| | (0) 000 | | 2 | | | |
| (40) | | | | | | |



| 11. | Anaerobic bacteria like Clostridium | may reduce nitrate to ——— directly. |
|-------------|-------------------------------------|-------------------------------------|
| | (1) nitrite (2) ammonia | (3) nitrogen (4) hydroxylamine |
| 12. | Sterile container is | |
| | (1) free from all pathogens | (2) free from all micro-organisms |
| | (3) free from all bacteria | (4) All of the above |
| 13. | Who gave eight kingdom system of | classification? |
| | (1) H. Hellriegel | (2) Cavalier-Smith |
| | (3) Carl Woese | (4) Sergei Winogradsky |
| 14. | The structure of cell is formed by | |
| | (1) nucleus (2) microfibrae | (3) microtubules (4) cell membrane |
| 15. | Holding period for hot air oven is | |
| | (1) 140 °C for 1 hour | (2) 160 °C for 1 hour |
| | (3) 140 °C for ½ hour | (4) 180 °C for 1 hour |
| 16. | Agarose gel method was first done | by. |
| | (1) Border (2) Qudin | (3) Neufeld (4) Lord Liste |
| 17. | Ziehl-Neelsen stain is | |
| | (1) metachromatic stain | (2) nuclear stain |
| | (3) relief stain | (1) acid-fast stain |
| | | |
| 40) | | (P.T.O.) |



| 18. | First virus to be studied was | | |
|-----|--|-------|---------------------------------------|
| | (1) pox virus | (2) | rabies virus |
| | (3) hepatitis virus | (4) | tobacco mosaic virus |
| 19. | It was first showed that the mosaic | dise | ase of tobacco is due to virus by |
| | (1) van Leeuwenhoek | (2) | Edward Jenner |
| | (3) Iwanowsky | (4) | Loeffler |
| 20. | The fungal nucleus | | |
| | (1) contains true chromosomes | | |
| | (2) has a nuclear membrane | | |
| | (3) differs from the bacterial nucleu | s | |
| | (4) All of these | | • |
| 21. | The most commonly used micro-org | anisi | m in alcohol fermentation is |
| | (1) Aspergillus niger | (2) | Bacillus subtilis |
| | (3) Saccharomyces cerevisiae | (4) | Escherichia coli |
| 22. | Large vessel containing all the parts desired micro-organisms is called | and | condition necessary for the growth of |
| | (1) bio reactor (2) auto reactor | (3) | impeller (4) None of these |
| 23. | Basic principle in industrial microbi | iolog | y is |
| | (1) suitable growth conditions | (2) | fermentation |
| | (3) providing aseptic conditions | (4) | All of these |
| | | | |



| 24. | Which one of the following organic group amino acids? | s are found in naturally occurring |
|------|--|--|
| | (1) Guanidinium ion (2) In | ndole |
| | (3) Imidazole (4) A | all of these |
| 25. | . The pH of a solution is determined by | |
| | (1) bacteria (2) yeast (3) fi | ungi (4) None of these |
| 26. | Molecules in which the atoms are held to strongest chemical linkages. | ogether by —— bonds have the |
| | (1) non-covalent (2) covalent (3) id | onic (4) hydrogen |
| 27. | Buffer solutions | |
| | (1) will always have a pH of 7 | |
| | (2) are rarely found in living systems | |
| | (3) cause a decrease in pH when acids ar | e added to them |
| | (4) tend to maintain a relatively constant | |
| 28. | . Most of the important functional groups in | n biological molecules contain |
| | (1) oxygen and/or nitrogen and are acidic | |
| | (2) oxygen and a phosphate | · · Particular de la company d |
| | (3) nitrogen and a phosphate | |
| | (4) oxygen and/or nitrogen and are polar | |
| 29. | Which one of the following forces is the m | est favourable for protein folding? |
| | (1) Conformational entry (2) H | vdronhobic interactions |
| | (3) van der Waals interactions (4) H | |
| (40) | 5 | |
| • | | (P.T.O.) |



| 30. | Fructose is metabolized by | 8 | |
|-----|---|----------------------------|--------|
| | (1) fructose 1-phosphate pathway | | |
| | (2) fructose 6-phosphate pathway | | |
| | (3) glyceraldehyde 3-phosphate pat | hway | |
| | (4) Both (1) and (2) | | |
| 31. | Humans are unable to digest | ** | |
| | (1) starch | (2) complex carbohydrates | 3 |
| | (3) denatured proteins | (4) cellulose | |
| 32. | The key enzyme in the regulation of | of fatty acid synthesis is | |
| | (1) acetyl CoA carboxylase | (2) AMP activated proteinl | kinase |
| | (3) protein phosphatase | (4) None of these | |
| 33. | Beta pleated sheets are examples of | f protein's | Ur |
| | (1) primary structure | (2) secondary structure | |
| | (3) tertiary structure | (4) quaternary structure | |
| 34. | Phospholipid contains | | |
| | (1) hydrophilic heads and hydroph | obic tails | |
| | (2) long water-soluble carbon chair | ns ' | |
| | (3) positively charged functional gr | oups | |
| | (4) both (2) and (3) | | |
| | 10 To | | |



| | | 2 | | | | |
|-----|-------------------------------------|--|-------------|---------------|----------|---------------------|
| 35. | Cellulose fibers | resemble with the p | prote | n structure | in the | form of |
| | (1) β-sheets | (2) a-heli | (3) | β-turns | (4) | None of these |
| 36. | The rate of Kill | for any bacteria is | а | | | |
| | (1) zero order r | eaction | (2) | 1st order r | eaction | |
| | (3) 2nd order re | eaction | (4) | 3rd order | reaction | ı. |
| 37. | Metalloproteins | cytochrome oxidase | is p | aired with - | · | atom. |
| | (1) iron | (2) magnesium | (3) | copper | (4) | cobalt |
| 38. | Dissociation of | water can be expres | ssed | as | | |
| | (1) $K = [H^+] OH$ | [-]/[H ₂ O] | (2) | $K = (H^+)(O$ | H-]/[C |)H-] |
| | (3) $K = \{H^+\}\{H_2^+\}$ | O]/[H ₂ O] | (4) | K = [H*][O | H-]/[F | I+] |
| 39. | Isoelectric point | is denoted by | | | | |
| | (1) pl | (2) pH | (3) | pO | (4) | pE |
| 40. | A molecular tech primer can be a | nnique in which DN umplified is known a | IA se as | quences bet | ween t | wo oligonucleotides |
| | (1) southern blo | otting | (2) | northern b | lotting | |
| | (3) PCR | | (4) | DNA replic | ation | |
| 41, | Allosteric enzym | es are | | | | |
| | (1) larger than | simple enzymes | | | | |
| | (2) smaller than | simple enzymes | er. | | | |
| | (3) larger and m | nore complex than s | simpl | e enzyme | | |
| | (4) smaller than | simple enzyme but | not | Compleme | | 6 |
| 40) | | 7 | . — | | | /D m a : |
| | | | | | | (P.T.O.) |



- 42. Why does the glycolytic pathway continue in the direction of glucose catabolism?
 - There are essentially irreversible reaction that act as the driving force for the pathway
 - (2) High levels of ATP keep the pathway going in a forward direction
 - (3) The enzymes of glycolysis only function in one direction
 - (4) Glycolysis occur in either directions
- 43. The release energy obtained by oxidation of glucose is stored as
 - (1) concentration gradient across a membrane driving force for the pathway
 - (2) ATP
 - (3) ADP
 - (4) NAD positive
- 44. The yield of the antibiotics depends upon
 - (1) pH of the medium
- (2) age of the inoculum
- (3) composition of the medium
- (4) All of these
- 45. The phospholipids present in cytoplasm membrane of archaebacteria is
 - (1) phosphoglycerides
 - (2) polyisoprenoid
 - (3) polyisoprenoid branched chain lipids
 - (4) None of the above



| 46, | Mycoplasmas are different from the other prokaryotes by |
|------|---|
| | (1) presence of chitin in cell wall |
| | (2) presence of murrain in cell walls |
| | (3) presence of protein in cell walls |
| | (4) absence of cell wall itself |
| 47. | Cell theory includes all of the following except |
| | (1) all organisms are composed of one or more cells |
| | (2) the cell is the most primitive form of life |
| | (3) the cell is the structural unit of life |
| All | (4) cells arise by division of pre-existing cells |
| 48. | Which one of the following structure is the smallest? |
| | (1) Viroid (2) Hydrogen atom |
| | (3) Bacterium (4) Mitochondrion |
| 49. | Which one of the following may account for the small size of the cells? |
| | (1) Rate of diffusion |
| | (2) Surface area/volume ratio |
| | (3) No. of mRNA that can be produced by nucleus |
| | (4) All of the above |
| | 9 |
| (40) | (P.T.O.) |
| | |



| 50. | A plasmids can be considered as a suitable cloning vector if | | | |
|------|--|--|--|--|
| | | | | |
| | (1) it can be readily isolated from the cells | | | |
| | (2) it possess a single restriction site | for one or more restriction enzymes | | |
| | (3) insertion of foreign DNA does alter | r its replication properties | | |
| | (4) All of the above | | | |
| 51. | Which one of the following vector can a DNA? | maintain the largest fragment of foreign | | |
| | (1) YAC (2) Cosmids (| 3) Plasmid (4) Phage | | |
| 52. | In aerobic respiration, the terminal ele | ectron acceptor is | | |
| | (1) oxygen (2) hydrogen (| 3) nitrogen (4) nitate | | |
| 53. | Which one of the following does no photosynthesis? | ot produce oxygen as a product of | | |
| | (1) Oak trees | 2) Purple sulphur bacteria | | |
| | (3) Cyanobacteria (| 4) Phytoplankton | | |
| 54. | What are the main constituents of cu | Iture for animal cell growth? | | |
| | (1) Glucose and glutamine | 2) Growth factors | | |
| | (3) Cytokines | 4) All of these | | |
| 55. | Which one of the following ranks the mo | olecules in the correct order by size? | | |
| | (1) Water-sucrose-glucose-protein | (2) Protein-water-glucose-sucrose | | |
| | (3) Water-protein-sucrose-glucose | (4) Protein-sucrose-glucose-water | | |
| (40) | 10 | | | |



| 56. | Linkage present | in cellulose molec | cule is | | | |
|-------------|-----------------------------|--------------------------------|--------------------------------|--------------------------|--|--|
| | (1) $\beta(1\rightarrow 4)$ | (2) $\alpha (1 \rightarrow 4)$ | (3) $\alpha (1 \rightarrow 6)$ | (4) Both (2) and (3) | | |
| 57 . | The following su | bstances are cell | inclusions except | | | |
| | (1) melanin | (2) glycogen | (3) lipids | (4) centrosome | | |
| 58. | Which one of the | following has is | oenzyme? | | | |
| | (1) Lactic dehyd | rogenase | (2) Hexokinas | se | | |
| | (3) Citrate synth | etase | (4) Aldolase | | | |
| 59. | Synthesis of mR | NA on DNA temp | late is | | | |
| | (1) unidirectiona | l | | | | |
| | (2) bidirectional | | | | | |
| | (3) bidirectional | with the help of | primer | | | |
| | (4) unidirectional | with the help of | primer | | | |
| 60. | How many energ | y bonds are expe | cted in the forma | ation of a peptide bond? | | |
| | (1) 2 | (2) 4 | (3) 6 | (4) 3 | | |
| 61. | Movement of can | | v site, where a se | condary tumour begins is | | |
| | (1) vascularization | n | (2) metastasis | 3 | | |
| | (3) promotion | • | (4) amaplasia | | | |
| 62. | The predominant | ontibody in saliv | a is | | | |
| | (1) IgG | (2) IgE | (3) IgA | (4) IgD | | |
| (40) | | | 1 | (P.T.O.) | | |



| | e system attacks the person's own normal |
|---|---|
| (1) Secondary immune diseases | (2) Autoimmune diseases |
| (3) Primary immune diseases | (4) Clonal selection diseases |
| Which one of the following cell type | e is haploid? |
| (1) Primary spermatocyte | (2) Spermatogonium |
| (3) Sertoli cell | (4) Secondary spermatocyte |
| The kidney forms from | |
| (1) endoderm (2) somites | (3) mesoderm (4) ectoderm |
| Which one of the following is grad according to immunity theory? | lually reduced and degenerated in ageing |
| (1) Thyroid (2) Parathyroids | (3) Thymus (4) Pituitary |
| The visible product of photosynthes | sis is |
| (1) glucose (2) cellulose | (3) starch (4) fructose |
| The reservoir for nitrogen is | |
| (1) the atmosphere | (2) rocks |
| (3) ammonia | (4) nitrates |
| Which one of the following cannot | move freely in and out of a capillary? |
| (1) Sugar | (2) Oxygen |
| (3) Carbon dioxide | (4) Plasma protein |
| | 12 |
| | tissue are called? (1) Secondary immune diseases (3) Primary immune diseases Which one of the following cell type (1) Primary spermatocyte (3) Sertoli cell The kidney forms from (1) endoderm (2) somites Which one of the following is gradaccording to immunity theory? (1) Thyroid (2) Parathyroids The visible product of photosynthe (1) glucose (2) cellulose The reservoir for nitrogen is (1) the atmosphere (3) ammonia Which one of the following cannot (1) Sugar |



| 70. | The size of filtration slits of glomes | ulus are approximately |
|------------|--|---|
| | (1) 10 nm (2) 15 nm | (3) 20 nm (4) 25 nm |
| 71. | When different genes interact with phenotype, this phenomenon is kn | each other in a way that influences the |
| | (1) epistatic | (2) pleiotrophic |
| | (3) codominance | (4) incomplete dominant |
| 72. | Plasmids do which of the following | ? |
| | (1) Direct synthesis of conjugation | pili |
| | (2) Provide resistance to certain at | tibiotics |
| | (3) Induce the formation of tumors | in plants |
| | (4) All of the above | |
| 73. | The most common lethal genetic d | sease in the United States is |
| | (1) sickle cell disease | (2) cystic fibrosts |
| | (3) Huntington's disease | (4) haemophilia |
| 74. | Longest cells in human body are | • |
| | (1) leg muscle cells | (2) bone cells |
| | (3) nerve cells | (4) heat muscle cells |
| 75. | According to botanical nomenclatur | a which are not allowed |
| | (I) synonyms (2) | (3) tautonyms (4) isonyms |
| O) | 1, | |
| | | (P.T.O.) |



| 76. | In groundnut the root is | | | | |
|------|--|------|-------------------|--|--|
| | (1) epiphytic | (2) | napiform | | |
| | (3) nodulated | (4) | photosynthetic | | |
| 77. | The cells which act as parasites in | the | body | | |
| | (1) schwann cells | (2) | hepatocytes | | |
| | (3) Kupffer's cells | (4) | cancer cells | | |
| 78. | 8. Which one of the following ecosystems have more productivity in an unit a grassland? | | | | |
| | (1) Grassland | (2) | Marine ecosystem | | |
| | (3) Pond ecosystem | (4) | Tree ecosystem | | |
| 79. | When birth-rate equals death rate | | | | |
| | (1) a population grows rapidly | | | | |
| | (2) density-dependant limiting factors do not affect the population (3) a population goes through up and down cycles | | | | |
| | | | | | |
| | (4) the size of a population remain | s co | nstant | | |
| 80. | Which one of the following is not an abiotic factor that shapes ecosystems | | | | |
| | (1) Soil minerals (2) Predators | (3) | Fire (4) Rainfall | | |
| 81. | Last stage of plant succession is | | | | |
| | (1) ecotype | (2) | serial community | | |
| | (3) biotic community | (4 | ecotone | | |
| (40) | 2. Analysis | 14 | | | |



| 82. | Peptone water medium is an example of | | | | |
|------|---------------------------------------|-----|---------------------------|--|--|
| | (1) synthetic medium | (2) | semi-synthetic medium | | |
| | (3) differential medium | (4) | None of these | | |
| 83. | Example of anaerobic medium is | | | | |
| | (1) Robertson cooked meat medium | l | | | |
| | (2) nutrient agar | | | | |
| | (3) nutrient broth | | | | |
| | (4) MacConkey's agar | | | | |
| 84. | Chemical preservatives do not inclu | de | | | |
| | (1) organic acids | (2) | sulphates | | |
| | (3) alcohol | (4) | starch | | |
| 85. | Most current gene therapy trials tar | get | ¥ . | | |
| | (1) SCID deficiency | (2) | cancer | | |
| | (3) cystic fibrosis | (4) | HIV | | |
| 86. | Transgenic animals used for | | | | |
| | (1) drug discovery | (2) | toxicological studies | | |
| | (3) pharmacokinetic studies | (4) | All of these | | |
| 87. | The cross of plants results in | | | | |
| | (1) cross breeds (2) hybrids | (3) | inbreed (4) None of these | | |
| (40) | 15 | | (P.T.O.) | | |



| 88. Augmentation gene therapy is the example of | | | | |
|--|--|--|--|--|
| (1) germ-line gene therapy | (2) somatic gene therapy | | | |
| (3) both (1) and (2) | (4) None of these | | | |
| In ELISA which of the molecule is a | dsorbed on the solid stationary phase? | | | |
| (1) Enzyme (2) Antigen | (3) Antibody (4) Both (2) and (3) | | | |
| In an electron microscope higher magnification is due to the use of | | | | |
| (1) higher wavelengths of light | (2) high velocity electrons | | | |
| (3) achromatic lenses | (4) magnetic system | | | |
| Which one of the following species of clostridium is responsible for formation of dark green to black colours in cheese? | | | | |
| (1) Clostridium tyrobutyricum | (2) Clostridium sporogenes | | | |
| (3) Clostridium herbarum | (4) None of these | | | |
| Human papilloma virus causes which one of the following? | | | | |
| (1) hepatitis | (2) cervical cancer | | | |
| (3) AIDS | (4) oral cancer | | | |
| Distance between each turn of the DNA helix is | | | | |
| (1) 20 Å (2) 28 Å | (3) 34 Å (4) 42 Å | | | |
| 94. Which one of the following are incapable of producing toxins in | | | | |
| (1) Clostridium tetani | (2) Human immunodeficiency virus | | | |
| (3) Escherichia coli | (4) Clostridium botulinum | | | |
| 16 | 5 | | | |
| | (1) germ-line gene therapy (3) both (1) and (2) In ELISA which of the molecule is a (1) Enzyme (2) Antigen In an electron microscope higher ma (1) higher wavelengths of light (3) achromatic lenses Which one of the following species of dark green to black colours in chees (1) Clostrictium tyrobutyricum (3) Clostrictium herbarum Human papilloma virus causes which (1) hepatitis (3) AIDS Distance between each turn of the I (1) 20 Å (2) 28 Å Which one of the following are incap (1) Clostrictium tetani (3) Escherichia coli | | | |



| 95. | Koch's postulates are used to relate | | | | | | |
|------|--|---|-----------------------------|--|--|--|--|
| | (1) a specific micro-organism to a specific disease | | | | | | |
| | (2) spontaneous generation of micro | (2) spontaneous generation of micro-organism to organic matter | | | | | |
| | (3) production of toxins to disease | | | | | | |
| | (4) transmission of sleeping sickness | ss to | tsetse flies | | | | |
| 96. | Phylogenetic tree of bacteria is con- | ylogenetic tree of bacteria is constructed based on the sequencing of | | | | | |
| | (1) 18S rRNA | (2) | 16S rRNA | | | | |
| | (3) DNA | (4) | All of the above | | | | |
| 97. | Tubulin in cilia and flagella are exa | es of | | | | | |
| | (1) hormonal proteins | (2) | storage proteins | | | | |
| | (3) motility proteins | (4) | defence proteins | | | | |
| 98. | Probiotics are | | • | | | | |
| | (1) cancer inducing microbes | (2) | kind of food allergens | | | | |
| | (3) live microbial food supplement | (4) | safe antibiotics | | | | |
| 99. | 99. The polysaccharide used to solidify bacterial growth media is | | | | | | |
| | (1) gelatin (2) agar | (3) | starch [4] All of the above | | | | |
| 100. | Micro-organisms that survive in the absence of moisture do so because | | | | | | |
| | CARACTER STATE CONTROL OF THE STATE OF THE S | | metabolize glucose | | | | |
| | (3) have no cell membranes | (4) | produce spores | | | | |
| (40) | 17 | . 3 | | | | | |
| | | | (P.T.O.) | | | | |



| 101. | Murein is a | | | | | |
|---|--|--------------|-----|-------------------|------|---------|
| | (1) polypeptide | | (2) | peptidoglycan | | |
| | (3) polysaccharide | | | lipid | | |
| | | * | (1) | upid | | |
| 102. | Most case of teta | inus are due | | | | |
| | (1) deep wounds | | (2) | respiratory dro | plet | S |
| | (3) bites arthropo | ds | (4) | consuming un | past | eurized |
| 103. | The noncoding RN | NA include | | 47 | | |
| | (1) rRNA | | (2) | tRNA | | |
| | (3) mRNA | | (4) | Both rRNA and | d tR | NA |
| 104. | 4. Tetracyclines are antibiotics that prevent the synthesis of | | | | | |
| | (1) cell wall | | (2) | nucleic acid | | |
| | (3) protein , | | (4) | cytoplasmic m | emb | rane |
| 105. | 5. What is the mean number of bases per twist in zDNA? | | | | | |
| | (1) 10 | (2) 9 | (3) | 11 | (4) | 12 |
| 106. | Which among these is not a mycotoxin? | | | | | |
| | (1) Aflatoxin | (2) Patulin | | Ochratoxin | (4) | d-Toxin |
| 107. Metal that is used as a catalyst in hydrogenation of | | | | rogenation of oil | s is | |
| | (1) Ni | (2) Pb | (3) | Zn | (4) | Cd |
| | | | | • | | |
| (40) | 18 | | | | | |



| 108. | PS I and PS II absorb light of different wavelengths due to | | | | | | |
|------|---|---|----------------|--|--|--|--|
| | (1) the presence of different soluble electron carriers | | | | | | |
| | (2) different locations is the chloro | (2) different locations is the chloroplast | | | | | |
| | (3) the proteins associated with each | (3) the proteins associated with each reaction center chlorophyll | | | | | |
| | (4) different types of reaction centr | (4) different types of reaction centre chlorophylls in each photosystem | | | | | |
| 109. | A common isotope of iodine used in radioimmunoassay is | | | | | | |
| | (1) 100 I (2) 125 T | (3) 150 I | (4) 175I | | | | |
| 110. | CAP, the catabolic activator protein, has a role in the expression of the | | | | | | |
| | (1) Lac operon (2) Trp operon | (3) Ara operon | (4) His operon | | | | |
| 111. | Recombinant DNA technology is related with | | | | | | |
| | (1) Hebert Boyer | (2) Charles Darv | vin | | | | |
| | (3) Stanley Cohen | (4) Both (1) and | (3) | | | | |
| 112. | The purpose of cloning is | | | | | | |
| | (1) replacing original genotype | | | | | | |
| | (2) preserving genotype | | | | | | |
| | (3) production of hGH gene in E. coli | | | | | | |
| | (4) None of the above | | | | | | |
| 113. | Golgi bodies originate from | | | | | | |
| | (1) plasma membrane | (2) mitochondria | | | | | |
| | (3) endoplasmic reticulari | (4) sytoplasm | | | | | |
| 114. | The term 'Ecology' was first coined by | | | | | | |
| | (1) Elements (2) Reiter | (3) Tansley | (4) Odum | | | | |
| (40) | 19 | | , , oddii | | | | |
| | | | (P.T.O.) | | | | |



| Ecosystem have | | | | |
|---|---|--|--|--|
| (1) cycling of materials and flow of | energy | | | |
| (2) flow of materials and cycling of | energy | 07 | | |
| (3) cycling of both materials and energy | | | | |
| (4) flow of both materials and energ | gy | | | |
| Which is not an example of cytoplasmic inheritance? | | | | |
| (1) Plastid inheritance | (2) Kappa partic | le inheritance | | |
| (3) Sigma particle inheritance | (4) Female steril | ity in maize | | |
| 7. When a gene exist in more than one form the different terms are called | | | | |
| (1) heterozygous | (2) complementa | ry gene | | |
| (3) genotype | (4) alleles | | | |
| 3. Fungi have been defined as chlorophyll (-) less non-vascular plants by | | | | |
| (1) Mundkur (2) Alexopoulos | (3) Bessey | (4) Butler | | |
| Lichens reproduced by | | | | |
| (1) Soredia (2) Gonidia | (3) Conidia | (4) ·Oidia | | |
| | | | | |
| | | | | |
| | (4) ethylene | | | |
| (5) Cytolania | | | | |
| 2 | 0 | D/7(40)—1233 | | |
| | (1) cycling of materials and flow of (2) flow of materials and cycling of (3) cycling of both materials and en (4) flow of both materials and energy Which is not an example of cytopla (1) Plastid inheritance (3) Sigma particle inheritance When a gene exist in more than on (1) heterozygous (3) genotype Fungi have been defined as chlorop (1) Mundkur (2) Alexopoulos Lichens reproduced by (1) Soredia (2) Gonidia A hormone used for inducing morp (1) abscisic acid (3) cytokinins | (1) cycling of materials and flow of energy (2) flow of materials and cycling of energy (3) cycling of both materials and energy (4) flow of both materials and energy Which is not an example of cytoplasmic inheritance? (1) Plastid inheritance (2) Kappa particle (3) Sigma particle inheritance (4) Female steril When a gene exist in more than one form the difference (1) heterozygous (2) complementation (3) genotype (4) alleles Fungi have been defined as chlorophyll (-) less non-venital materials (1) Mundkur (2) Alexopoulos (3) Bessey Lichens reproduced by (1) Soredia (2) Gonidia (3) Conidia A hormone used for inducing morphogenesis in plant (1) abscisic acid (2) gibberellins (3) cytokinins (4) ethylene | | |





अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ट पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली वा काली बाल-प्वाइंट पेन से ही लिखें)

- प्रश्न पुस्तिका मिलने के 30 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
- 2. परीक्षा भवन में *लिफाफा रहित प्रवेश-पत्र के अतिरिक्त,* लिखा या सादा कोई भी खुला कागज साथ में न लायें।
- उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा, केवल उत्तर-पत्र का ही मृल्यांकन किया जायेगा।
- 4. अपना *अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन* से निर्धारित स्थान पर लिखें।
- 5. उत्तर-पत्र के प्रथम पृष्ट पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
- 6. ओ॰ एम॰ आर॰ पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक सं॰ और ओ॰ एम॰ आर॰ पत्र सं॰ की प्रविष्टियों में उपिरलेखन की अनुमित नहीं है।
- उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
- 8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाड़ा करना है।
- 9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
- 10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
- 11. रफ़ कार्य के लिये प्रश्न-पुस्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग करें।
- 12. परीक्षा के उपरान्त केवल *ओ०एम०आर० उत्तर-पत्र* परीक्षा भवन में जमा कर दें।
- 13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।
- यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।



