

Seat No.	
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*P.T.O.*

## M/P ENT - 02

- 4) Drawing information or content from the work of another without acknowledging the source by citing a reference is considered to be plagiarism in all of the following cases except.
- A) Using the exact words of the author
  - B) Using data that the author has compiled through his/her independent investigation.
  - C) Using information from the author's work that is regarded as common knowledge in the discipline.
  - D) Reproducing in your paper a chart contained in the author's work.
- 5) Research through experiment and observation is called
- A) Clinical study
  - B) Experimental study
  - C) Laboratory study
  - D) Empirical study
- 6) The amount of soil salinity was studied in District A and soil quality was found to be bad. A similar study in District B is called as.
- A) Basic research
  - B) Extended research
  - C) Applied research
  - D) Novel research
- 7) Which of the following is considered most important while granting research funding?
- A) Novelty
  - B) Sincerity of the researcher
  - C) Available infrastructure
  - D) Proven capability of the researcher
- 8) Which of the following method is not suitable for selecting a research topic?
- A) Social, economic, cultural or scientific need
  - B) Discussion with guide, mentor, or seniors
  - C) Having a ready report on a topic that can be easily reproduced
  - D) Internet resources
- 9) What is the most important quality of a good researcher?
- A) Curiosity & perseverance
  - B) Hard work
  - C) Computer proficiency
  - D) Patience
- 10) L,M,N,P and Q appeared for a test. M'scored better than P, but scored less than L and N. L scored better than N. P scored better than Q. Which of the following is the correct descending order based on their performance?
- A) LNMPQ
  - B) NLMPQ
  - C) QPMNL
  - D) PQMLN

**M/P ENT - 02**

- 11) If A completes a particular work in 8 days and B the same work in 24 days. How many days will it take if they work together?  
A) 4  
B) 5  
C) 6  
D) 7
- 12) What comes next in the sequence: 1, 3, 11, 43, \_\_\_\_?  
A) 161  
B) 171  
C) 181  
D) 191
- 13) What is the molarity of a solution that contains 1.50 mol HCl in 2.50 L of solution?  
A) 1.67 M  
B) 0.60 M  
C) 20 M  
D) 1.40 M
- 14) According to Henderson-Hasselbalch equation, when pH of a solution becomes equal to its pKa, the solution becomes a buffer. This condition is achieved when\_\_\_\_\_  
A) Concentration of proton donor equals to the concentration of proton acceptor  
B) Concentration of proton donor becomes zero  
C) Concentration of proton acceptor becomes zero  
D) The concentration of proton donor becomes log 1/10<sup>th</sup> of concentration of proton acceptor
- 15) Which of the following gives a negative test with Barfoed's test?  
A) Glucose  
B) Maltose  
C) Erythrose  
D) Fructose
- 16) Iodine number is a measure of\_\_\_\_\_  
A) Degree of unsaturation of fat  
B) Degree of rancidity of fat  
C) Measure of volatile fatty acids in fat  
D) Measure of number of-OH groups in fat
- 17) Which of the following is used to visualize live cells?  
A) SEM  
B) TEM  
C) Phase contrast microscope  
D) All of these
- 18) We can detect NAD / NADH at 340 nm. This is in the \_\_\_\_\_ range  
A) UV  
B) IR  
C) Visible  
D) Far IR

## M/P ENT - 02

- 19) Mohini, Nanda, Seema, Anisha and Sangeeta are participating in a race. At the end of the race, Seema was ahead of Nanda but behind Anisha. Mohini was behind of all. Sangeeta was ahead of Seema. Who must be the first three in order of finishing the race?
- A) Mohini, Sangeeta, Seema                      B) Sangeeta, Seema, Anisha  
C) Anisha, Sangeeta, Seema                      D) Seema, Sangeeta, Anisha
- 20) The main advantage of passive immunization over active immunization is that
- A) It can be administered orally  
B) Antibody persists for a long time  
C) It provides antibody more rapidly  
D) It contains primarily IgG
- 21) Which of the following methods is not useful for measurement of product formed in an enzyme assay?
- A) Conductometric method                      B) Spectrophotometric method  
C) Measurement of coenzymes                      D) Immunoelectrophoresis
- 22) Ethidium bromide used in DNA staining has to be used carefully as it can cause following mutation
- A) Inversion    B) Thymine dimmers  
C) Frame shift    D) Point mutation
- 23) Salting out process involves\_\_\_\_\_
- A) Precipitation of proteins using ammonium sulphate  
B) Precipitation of proteins using copper sulphate  
C) Precipitation of proteins using acetone  
D) None of these
- 24) The Nucleic acids have absorption maxima at \_\_\_\_\_nm.
- A) 260    B) 340  
C) 280    D) 180
- 25) At what pH and molarity would you start an anion exchange chromatography?
- A) pH 4 ; 2M    B) pH 7; 0.02 M  
C) pH 4; 0.2M    D) pH 7; 2M

**SECTION-II**

- 26) In case of non-competitive inhibition  
A)  $K_m$  remains same;  $V_{max}$  increases  
B)  $K_m$  decreases;  $V_{max}$  remains same  
C)  $K_m$  increases;  $V_{max}$  remains same  
D)  $K_m$  remains same;  $V_{max}$  decreases
- 27) Which of the following enzymes functions in both glycolysis and gluconeogenesis?  
A) Pyruvate kinase  
B) Pyruvate carboxylase  
C) Glyceraldehyde 3-phosphate dehydrogenase  
D) Fructose 1,6 diphosphatase
- 28) One of the principal sources of the hydrogen stored in the form of NADPH is \_\_\_\_\_  
A) the synthesis of fatty acids                      B) the citric acid cycle  
C) the hexose monophosphate shunt              D) oxidative phosphorylation
- 29) Among following in which database -D structures of proteins are stored?  
A) PIR    B) PDB  
C) DDBJ    D) PIR
- 30) Reabsorption of useful molecules or ions in kidneys occur through  
A) Diffusion    B) Active Transport  
C) Partial osmosis    D) Differential osmosis
- 31) Which of the following processes requires cytochrome c ?  
A) Glycolysis    B) Photophosphorylation  
C) Nitrogen fixation    D) Apoptosis
- 32) In animals, the desaturation of essential fatty acids occurs in which of the following subcellular fractions?  
A) Microsomal  
B) Mitochondrial  
C) Supernatants of 1,00,000 x g (60 min)  
D) Nuclear
- 33) In paracrine signaling, the signaling molecules affects only  
A) Target cells close to the cell from which it was secreted  
B) Target cells distant from its site of synthesis in cells of an endocrine organ  
C) Both (A) and (B)  
D) None of the above

- 34) BLOCK is a\_\_\_\_\_
- A) Primary protein sequence Database
  - B) Structural Database
  - C) Composite Database
  - D) Secondary protein sequence Database
- 35) Uncoupling of oxidative phosphorylation implies that\_\_\_\_\_
- A) the ATPase activity of mitochondria is abolished
  - B) the mitochondria ceases to oxidize succinate
  - C) ATP formation ceases but respiration continues
  - D) ATP formation continue but respiration ceases
- 36) MHC I makes a presentation to
- A) CD8 cells
  - B) CD4 cells
  - C) CD20 cells
  - D) Macrophages
- 37) What is the location of visual cortex in brain?
- A) Frontal lobe
  - B) Parietal lobe
  - C) Occipital lobe
  - D) Temporal lobe
- 38) Low level computer language uses\_\_\_\_\_
- A) English words
  - B) Limited grammar
  - C) Mnemonic codes
  - D) Mathematical symbols
- 39) Which of the following statement is not true about macrophages
- A) They are capable of phagocytosis
  - B) They are activated by gama interferon
  - C) They can kill bacteria by oxidative burst
  - D) No bacteria can infect these cells
- 40) During hyperpolarization the membrane potential becomes\_\_\_\_\_
- A) Neutral
  - B) More positive
  - C) More negative
  - D) None of the above
- 41) Insertion of DNA fragments at the Hind III site in the plasmid PBR322 inactivates the gene. This is called as
- A) Metabolite inactivation
  - B) Antibiotic mediated inactivation
  - C) Insertional inactivation
  - D) Gene inactivation
- 42) cAMP activated CREB transcription factor interacts with the DNA by
- A) Zinc fingers
  - B) Leucine zippers
  - C) HRE
  - D) Homeodomain

- 43) tRNA is synthesized in the  
A) Ribosome  
B) Nucleus  
C) Rough endoplasmic reticulum  
D) Cytoplasm
- 44) How many different gametes can be formed by an organism with a genotype of AaBbCcddEeFF?  
A) 8  
B) 16  
C) 64  
D) 32
- 45) Pickles and sauerkraut share a common innoculum  
A) *Lactobacillus plantarum*  
B) *Lactobacillus bulgaricus*  
C) *Lactobacillus acidophilus*  
D) *Saccharomyces cerevisiae*
- 46) Glucose oxidase is obtained from  
A) *Saccharomyces cerevisiae*  
B) *Aspergillus niger*  
C) *Spirulina*  
D) *Penicillin species*
- 47) Which is not fruit or vegetable based fermented product?  
A) Wine  
B) Beer  
C) Vinegar  
D) Sauerkraut
- 48) Actinomycin D  
A) Blocks movement of RNA polymerase  
B) Binds double stranded DNA  
C) Binds single stranded RNA  
D) (A) and (B)
- 49) Optimum temperature of DNA polymerase of T. aquaticus is  
A) 37 deg. C  
B) 72 deg. C  
C) 85 deg. C  
D) 57 deg. C
- 50) Concentration of this antibody increases in an helminth infection  
A) IgA  
B) IgM  
C) IgE  
D) IgG



**Rough Work**