

# **RAMAKRISHNA MISSION VIDYAMANDIRAM**

**Belur Math, Howrah – 711 202**

## **ADMISSION TEST – 2014**

## **MICROBIOLOGY (Honours)**

Date : 23-06-2014

Full Marks : 50

Time : 11 a.m. - 12 noon

## **Instructions for the candidate**

There are 50 questions **each carrying 1 mark**. Candidates have to select the correct choice by marking in blue/black pen only in the optical mark recognition (OMR) to be provided during written test. Marking should be dark and should completely fill **only** one blank box out of four choices against the corresponding question number. Incomplete filling or multiple filling of boxes will be rejected. Once one answer is marked in OMR, there is no scope to alter the choice. Doing rough work, or use of eraser, blade, whitener, etc. on the OMR is strictly prohibited. **One mark will be deducted for three wrong answers.**

1. Bacteria was observed first by  
a) Louis Pasteur      b) Robert Hook      c) A.V. Leewenhoek      d) Robert Koch

2. Which is common between chloroplast, chromoplast and leucoplast?  
A. Thylakoid present  
B. Pigment present  
C. Store starch, protein and lipid  
D. Ability to multiply by fission like process  
a) A, B      b) A, C      c) A, D      d) C, D

3. Match the column and find the correct combination:  

(A) Detoxification	i) Leucoplast
(B) Mechanical strength	ii) Lysosome
(C) Secretion	iii) Endoplasmic Reticulum
(D) Heterophagy	iv) Golgi Complex
(E) Storage	V) Cell wall

  
a) A-iv B-v, C-iii, D-ii, E-i      b) A-iv. B-v, C-iii, D-i, E-ii  
c) A-iii, B-iv, C-v, D-ii, E-i      d) A-iii, B-v, C-iv, D-ii, E-i

4. Here is given a few statements. Choose the correct combination  
A. Mitochondria contain DNA  
B. 70S ribosome is present in prokaryotes  
C. Ribosomes are lipoproteins  
D. Elaioplasts are concerned with storage of lipid  
a) A, B, C      b) B, C, D  
c) A, B, D      d) All of the statements are correct

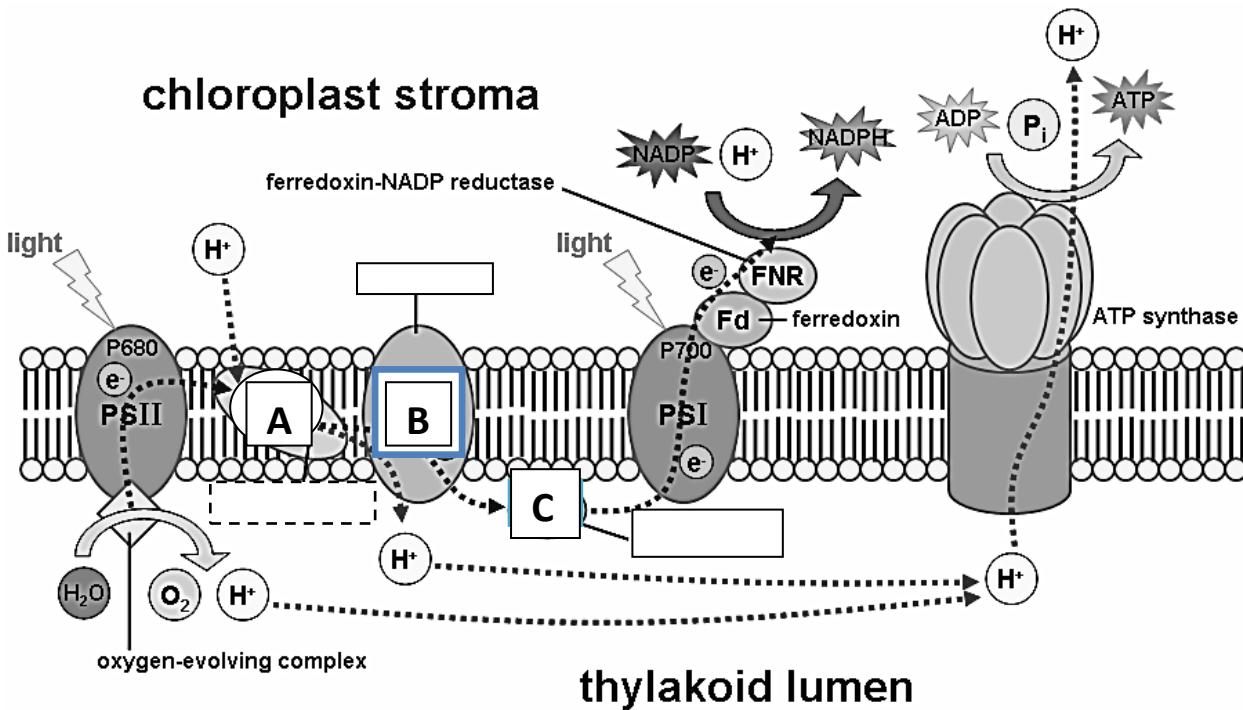
5. The magnification in a compound light microscope is given by a number of lens set. The number is  
a) 2      b) 3      c) 4      d) 5

6. If the F1 hybrid organism has the genotype AaBbCCDdEE, the types of gamete will be produced are  
a) 6      b) 8      c) 12      d) 25

7. Crossing-over occurs during  
a) Leptotene      b) Zygote      c) Diplotene      d) Pachytene

8. Which one of the electron transport chain components is not located in the inner mitochondrial membrane?  
a) Succinate dehydrogenase      b) NADPH-dehydrogenase  
c) Cytochrome oxidase      d) Ubiquinone

9. Triple helical structure is exhibited by  
 a) Albumin      b) Globulin      c) Myoglobin      d) Collagen
10. Segregation of Mendelian factors (Aa) occurs during  
 a) Anaphase I      b) Diplotene      c) Zygote/Pachytene      d) Anaphase II
11. Active proton pump is present in the cell membrane of  
 a) Lysosomes      b) Chloroplast      c) Mitochondria      d) Endoplasmic reticulum
12. If each turn of a sample of B-DNA contains 10.4 bp, then the number of turns in a DNA of 2080 nucleotides will be  
 a) 104      b) 100      c) 208      d) 624
13. Maltase is a kind of  
 a) Oxidoreductase      b) Transferase      c) Hydrolase      d) Lyase
14. Which of the following is not a reducing sugar  
 a) Glucose      b) Fructose      c) Maltose      d) Sucrose
15. The high energy bonds in ATP are  
 a) Glycoside bonds      b) Ester bonds      c) Anhydride bonds      d) all of these
16. The sequence of DNA recognized by sigma factor during transcription is called  
 a) Operator      b) Promoter      c) Regulator      d) Structural gene
17. The infectious agents composed of protein only are  
 a) Viroids      b) Virusoids      c) Prions      d) Viruses
18. In the diagram given below, the compounds marked A, B and C are



- a) A- Plastoquinone, B- Cytochrome b<sub>6</sub>f, C- Plastocyanin  
 b) A- Plastocyanin, B- Plastoquinone, C- Cytochrome b<sub>6</sub>f  
 c) A- Pheophytin, B- Plastoquinone, C- Cytochrome b<sub>6</sub>f  
 d) A- Pheophytin, B- Cytochrome b<sub>6</sub>f, C- Plastocyanin
19. The catalytic efficiency of two different enzymes is compared by  
 a) Product      b) Vmax      c) ½ Vmax      d) Km
20. The method of partial destruction of pathogenic microorganisms in milk is called  
 a) Sterilization      b) Pasteurization      c) Lyophilization      d) Tyndalization
21. In CAM plants, CO<sub>2</sub> is fixed as  
 a) Oxaloacetic acid      b) PEPA      c) Glycolic acid      d) Malic acid



