ACADEMIC SESSION: 2017-2018
PART – III

PAPER – V, UNIT – I
GROUP A – MICROBIOLOGY

1. Which of the following is used for the proper maintenance and preservation of pure cultures?

a. Periodic transfer to fresh media
b. Preservation by overlaying cultures with mineral oil
c. Preservation by lyophilisation
d. All the above

2. ---------is commonly used as a solidifying agent in the preparation of media.
3. What do you mean by pure culture?
4. Name one Gram negative and one Gram positive bacteria.
5. What is the use of mordant in Gram stain? Name the mordant.
6. Which phase of growth curve is characterized by maximum bacterial replication?
7. Name an instrument used each for dry heat and moist heat.
8. What are the common modes of action of antibiotics?
9. Who is known as Father of Microbiology?
10. How is *Mycobacterium* species stained?

PAPER –V, UNIT – I
GROUP C – IMMUNOLOGY

1. Name the scientist who led the foundation of Immunology?
2. What is Innate Immune System?
3. What are the cell types involved in Adaptive Immune System?
4. Name the pan T cell marker.
5. How many kinds of antibodies are synthesized by B cell?
6. *Kappa* and *Lamda* chains are associated with--------chains.
7. Cytoxic T cells and Helper T cells can be recognized by which of the following cell surface marker?
8. Which is not an antigen presenting cell?

a. B cell b. Polymorphonucleocyte c. Dendritic cell

9. Chemically an antigen may be

a. Lipid b. Protein c. Polysaccharide d. Any of these

10. Which of the following (s) is/are the determinate of antigenicity ?

a. Chemical nature b. Size of antigen c. Foreignes d. All the above

PAPER-V, UNIT - II,
GROUP A - MOLECULAR BIOLOGY & BIOTECHNOLOGY

1. What is gene?
2. What is cistron?
3. What is meant by gene locus?
4. What is allele?
5. How is the concept of a chromosome related to the concept of the gene?
6. Mention the important functions of gene.
7. What is central dogma in molecular biology?
8. Who proposed one gene one peptide hypothesis?
9. Differentiate between homoallele and heteroallele.
10. What is the genetic cause of sickle cell?

PAPER - VI, UNIT - I

GROUP A - EVOLUTION & SYSTEMATICS

1. Differentiate between cladistics and phoenetics.
2. Describe the role of systematic in biology.
3. What is synapomorphy.
4. What is sibling species? Give examples.
5. Discuss the criteria of biological species.

PAPER-VI, UNIT-II,

GROUP A - ECOLOGY

1. Distinguish between dispersion and dispersal.
2. Distinguish between density dependent and density independent regulation of population.
3. What is biotic potential?
4. What is carrying capacity?
5. Describe with diagram - Universal model of energy flow.