Sem. V
CBSGS Pharm Biotechnology
March 2015

QP Code : 16119

(3 Hours) [Total Marks : 100

N.B. : (1) All question are **compulsory.**

1. (a) Name any two autoimmune disorder. 1
   (b) Name any two application of monoclonal antibody. 1
   (c) Draw the structure of immunoglobuline. 1
   (d) Write microbial limit of Lactose. 1
   (e) Name two application of agglutination test. 1
   (f) Give scope of pharmaceutical Biotechnology. 1
   (g) Name any one subunit vaccine with organism involved. 1
   (h) How will you isolate and confirm the presence of Salmonela typhi in the given sample of lactose. 1
   (i) Write two application of a biosensor. 1
   (j) Give the types of fermenter. 1
   (k) Differentiate between Active and passive immunity. 1
   (l) Define phagocytosis. 1
   (m) What is epitope and haptane. 2
   (n) Explain the term avidity and affinity. 1

2. (a) Discuss the methods of enzyme immobilization and write one of the method in detail. 3

OR

   (a) Write the types of microbial assay method write one of the method in detail. 3
   (b) Classify biosensor and how will you identify glucose oxidese by biosensor technique. 3
   (c) Short note on transgenic plant (any **two** exvivo method) 3
   (d) Define whole cell immobilization. 2

3. (a) Write flow sheet of penicillin G production.
   (i) Upstream technique. 3

OR

   (i) Down stream technique. 3
   (b) Discuss in details preparation and standerdization of BCG vaccine. 3
   (c) Draw the labelled diagram of a fermenter. 3
   (d) Define saik and sabine polio vaccine. 2

4. (a) Discuss in detail production of monoclonal antibody . 3

OR

   (a) Draw labelled diagram of life cycle of bacteriophase λ. 3
   (b) Write flow chart of gene library and enlist its application. 3
   (c) What are the types of antigen-antibody reaction write precipitation test technique and its application. 3

(d) Application of stem cell culture. 2

5. (a) What is DNA sequencing. Explain any one method. 3

OR

(a) Write the techniques of ELISA, any one method in details. 3
(b) Short note on PCR. 3
(c) Write gene therapy (any two method) 3
(d) Application of recombinant DNA technology. 2

6. (a) Discuss different types of hypersensitivity with suitable example. 3

OR

(a) Define restriction endonucleases with application and example. 3
(b) Ig- types and application. 3
(c) Write short note (any one) 3
(i) Fever
(ii) Inflamation
(d) Define virulance and pandemic disease. 2
