

Roll No.

MPY-102

M. Pharm. (First Semester) EXAMINATION, July, 2008 BIOTECHNOLOGY AND BIOINFORMATICS

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Time : Three Hours
Maximum Marks : 75

Note : Attempt any five questions. All questions carry equal marks.

1. (a) Describe the cells responsible for immunity development and antibody production in response to any antigen. How monoclonal antibody is advantageous than polyclonal antibody and how it can be produced ?
(b) Discuss immunotherapy for cancer and viral infection.
2. (a) Discuss the genes involved in initiation and inhibition of cancer with their important actions. What are the newer strategies for combating cancer ?
(b) Explain the role of p53 and raf gene in cancer.
3. (a) Discuss different phases of mitotic cycle with their duration and clear diagrammatic representation. Explain Apoptosis.
(b) How absorption of polar substance occurs through plasma membrane ? Discuss.

4. (a) What are biological databases and its significance ? Discuss sequence biological databases in detail.
(b) Explain how bioinformatics is helping to perform wet lab experiment ?
5. (a) Give details about potential target diseases for gene therapy. Comment on, how gene therapy is advantageous over conventional therapy ?
(b) What is Gene therapy ? Classify it based on gene transfer methods. Discuss Viral method for gene transfer in detail.
6. (a) Describe transcription in brief with emphasis on enzymes involved in it. Mention initiation and termination signal for translation and translational product.
(b) What are posttranslational modifications ?
7. (a) What do you understand by the term cloning ? How will you accomplish gene cloning by employing recombinant DNA technology ? Compare restriction endonucleases I, II and III.
(b) Discuss different blotting techniques with their advantages and shortcomings in comparison to other sequence analysis techniques.
8. Write notes on any two of the following :
 - (i) 3 D structure of protein and its determination
 - (ii) Genetically improved subunit vaccines
 - (iii) Sampling and sampling plans

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MPY - 101**M. Pharmacy I & II Semester**

Examination, December 2012

Modern Analytical Techniques*Time : Three Hours**Maximum Marks : 70*

- Note :** 1. Attempt any five questions.
2. All questions carry equal marks.

1. a) Discuss the different transitions when EMR strikes matter. Draw energy diagram.
b) Explain giving examples Woodward's and Fieser & Fieser rules in UV.
2. a) Explain the theory of IR spectrometry.
b) Write about FT-IR giving its advantages over dispersive IR.
3. a) Explain giving examples chemical shifts and its applications in structure determination.
b) Write a note on C-13 NMR.
4. a) Explain giving examples fragmentation pattern in alcohols.
b) Describe giving applications GC-MS.
5. a) Write theory and applications of fluorescence. Why it is more sensitive than UV?

- b) Write principle and applications of atomic absorption spectrometry. What is background correction?

6. a) Write a note on electrophoresis.
b) Compare HPLC & HPTLC.

7. a) Explain giving applications DSC.
b) Write a note on flow cytometry.

8. Write notes on (any four):
 - a) X-Ray crystallography
 - b) Gel Chromatography
 - c) Principle and applications of circular dichroism
 - d) ELISA
 - e) SEM

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