

Seat No. : _____

AB-146

April-2018

B.Sc., Sem.-VI

307 : Health Biotechnology

Time : 3 Hours]

[Max. Marks : 70

1. Answer the following : (any **two**) **14**
 - (A) Explain Koch's postulates and discuss its significance in diagnosis of diseases.
 - (B) Write a short note on different types of bacterial toxins.
 - (C) Explain various modes of transmission of infectious diseases.
 - (D) Describe the role of epidemiology in prevention, diagnosis and control of diseases.

2. Answer the following : (any **two**) **14**
 - (A) Describe the principle of RIA and its application.
 - (B) "PCR is a powerful molecular diagnostic technique." Justify the statement.
 - (C) Write a note on the application of western blotting in disease diagnostics.
 - (D) Discuss the identification of important cancer biomarkers with examples using molecular tools.

3. Answer the following : (any **two**) **14**
 - (A) What are therapeutic proteins ? Write a note on the therapeutic uses of insulin.
 - (B) What are stem cells ? Explain in detail the use of different types of stem cells in treatment of diseases.
 - (C) Write a note on enzyme replacement therapy.
 - (D) Explain principle of DNA vaccines and its role in control of diseases.

4. Answer the following : (any **two**) **14**
 - (A) Discuss the pathogenesis of AIDS.
 - (B) Write a note on the burden of tuberculosis in India and the challenges to effective TB management.
 - (C) What are oncogenes and tumour suppressor gene ? Write a note on pathogenesis of cancer.
 - (D) Discuss causes and symptoms of cystic fibrosis.

5. Answer the following in brief. Attempt **all**.

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- (1) Define exotoxins with example.
 - (2) Give any two applications of bioinformatics in cancer diagnosis.
 - (3) Define morbidity and mortality for diseases.
 - (4) Write the principle of ELISA
 - (5) Write the full form of HGPRT.
 - (6) State the use of HAT medium in monoclonal antibody production.
 - (7) Name any two type of PCR.
 - (8) Write action of restriction enzymes with example.
 - (9) State any two use of INF.
 - (10) List uses of EPO.
 - (11) What is SCID ?
 - (12) Why fever is relapsing alternate day in malaria ?
 - (13) Differentiate between thalassemia major and minor condition.
 - (14) Define bioterrorism with one example.
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