

**Avinashilingam Institute for Home Science and Higher Education for Women,
Coimbatore – 641043**

Continuous Internal Assessment Test – II

April 2025

Semester II

Class: I M.Sc.

Time : 2 hrs

Major: Bioinformatics

Max. Marks : 60

23MBII01 – Bioinformatics in Health

Course Outcomes:

After completing this course, the student will

CO1: Obtain basic knowledge of healthcare database and Health Information Technology

CO2: Understand the e-resources available and information retrieval from digital libraries

CO3: Explore to understand big data in health care and their applications.

CO4: Gain knowledge about personalised medicine and how it may be used to treat a variety of diseases.

CO5: Thoroughly understand the drug development process and the numerous factors that can be used in their research.

Part – A

Choose the correct answer

(6X1=6)

1. Which of the following is NOT a product regulated by the FDA _____ (CO4, K2)
a) Human vaccines b) Veterinary drugs c) Meat and poultry products d) Medical devices
2. Which FDA center is responsible for reviewing and approving new drugs _____ (CO4, K3)
a) CDRH b) CBER c) CDER d) CDER
3. Which of the following genes is associated with tacrolimus metabolism _____ (CO4, K4)
a) CYP2D6 b) CYP2C9 c) CYP3A4 d) SLCO1B1
4. Pharmacogenomics is most useful for which category of drugs _____ (CO4, K2)
a) Antibiotics b) Cardiovascular drugs c) Personalized medicine drugs d) Over-the-counter medications
5. Which of the following is NOT a component of preventive medicine _____ (CO4, K2)
a) Health promotion b) Disease surveillance c) Rehabilitation of stroke patients d) Screening programs
6. Which computational technique is widely used in drug design to predict drug-target interactions _____ (CO5, K2)
a) Western blotting b) Molecular docking c) Immunohistochemistry d) Gel electrophoresis

Part - B

Answer the following

Answer should not exceed 400 words or two pages

3 x 6 = 18

7. a. Describe the contribution of pharmacogenomics to personalized medicine. (CO4, K2)
Or
b. Compare and contrast traditional medicine and personalised medicine. (CO4, K2)
8. a. Discuss the key responsibilities of the FDA in drug regulation. (CO2, K3)
Or
b. Explain the different levels of prevention with suitable examples. (CO4, K2)
9. a. What are the key challenges in modern drug design and development. (CO5, K2)
Or
b. Explain the application of protein in health sector. (CO5, K2)

Part – C
Answer the following
Answer should not exceed 800 words or four pages

3 x 12 = 36

10. a. Elaborate on biomarkers and its significance in personalized medicine. (CO4, K2)

Or

b. Describe the role of big data analytics in health care. (CO4, K2)

11. a. Define preventive medicine and discuss its importance in modern healthcare.

(CO4, K2)

Or

b. Describe the role of computational approaches in modern drug design. (CO5, K3)

12. a. Explain in detail about personalized cancer medicine in recent success. (CO4, K3)

Or

b. Explain the process of lead identification and lead optimization in drug design. (CO5, K2)

Staff In charge: Mrs.S.Saraswathi

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