

Reg. No.:



Y8176

Name:

University of Kerala

Second Semester FYUGP Degree Examination, June 2026

Multi-Disciplinary course

BIOCHEMISTRY

UK2MDCBCH102 - Application of Artificial intelligence in Biomedical science

Academic Level: 100-199

2024 Admission onwards

Time: 1 Hour 30 Minutes(90 Mins.)

Max. Marks: 42

Part A. 6 Marks.Time:6 Minutes.(Cognitive Level:Remember(RE)/Understand(UN)) Objective Type. 1 Mark
Each.Answer all questions

Qn No.	Question	CL	CO
1	Name an AI-based imaging technique used for detecting lung cancer.	RE	2
2	Name the primary focus of Artificial Intelligence (AI) in healthcare.	RE	1
3	Identify the AI subfield focuses on training machines to learn from data.	UN	1
4	Which AI-powered technique helps in the early detection of Alzheimer's disease? A)Brain-Computer Interfaces (BCIs) B)Blockchain Technology C)Social Media Analysis D) Genetic Engineering	UN	2
5	Recall the AI form that is hypothetical and surpasses human intelligence.	UN	1
6	Type of brain scan that is often analyzed by AI for Alzheimer's diagnosis.	UN	2

Part B. 8 Marks.Time:24 Minutes.(Cognitive Level:Understand(UN)/Apply(AP))Short Answer. 2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	How does AI improve the accuracy of secondary structure prediction?	UN	3
8	Explain the reason AI is used in medical imaging analysis.	UN	4
9	Analyse how AI accelerates the drug discovery process compared to traditional methods?	AP	3
10	Describe the use of AI in finding breast cancer early?	AP	2

Part C. 28 Marks. Time: 60 Minutes (Cognitive Level: Apply (AP)/Analyse (AN)/Evaluate (EV)/Create (CR)) Long Answer. 7 marks each. Answer all 4 Questions choosing among options * within each question

Qn No.	Question	CL	CO
11	A) Apply AI techniques to analyze biomedical data and diagnose diseases, demonstrating their understanding of how AI can be used in real-world scenarios . OR B) Evaluate the major benefits of using AI in medical imaging techniques	AP	3, 4
12	A) Compare Machine Learning (ML) with Deep Learning (DL), how they differ from Natural Language Processing (NLP). What are their primary functions in AI applications? OR B) Identify and explain the key challenges and ethical issues in implementing AI based imaging systems.	AN	1, 4
13	A) Evaluate the functions of lnc RNAs in gene regulation and cell function. OR B) Describe the role of AI in improving diagnostic capabilities using CT scans.	EV	3, 4
14	A) Design an AI-driven framework for early Alzheimer's detection and management OR B) Design an integrated AI-powered workflow for a multi-modality radiology department that utilizes MRI, CT, and X-ray imaging	CR	2, 4