UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Artificial Intelligence and Machine Learning in Healthcare   Semester: II
Program: M.Sc.(Clinical Research+ Microbiology + Nutrition and Dietetics)   Time : 03 hrs.
Course Code: CSAI-7009   Max. Marks: 100

Instructions: Attempt all sections

Q.No	Section A Short answer questions/ MCQ/T&F	(20Q x1.5M= 30 Marks)	COs
Q	Statement of question		CO1
1	Explain the term Machine Learning	1.5	CO2
2	Bring out the difference between Strong AI and Weak AI.	1.5	CO3
3	Differentiate between a dataset and a database.	1.5	CO1
4	Explain the term" Protein Structure Analysis" in ML.	1.5	CO2
5	List two advantages and two disadvantages to Machine Learning.	1.5	CO2
6	PEAS stands for _____	1.5	CO1
7	Bring out the importance of Retrosynthesis using ML.	1.5	CO2
8	Differentiate between Weak AI and Super AI.	1.5	CO1
9	If a robot is able to change its own trajectory as per the external conditions, then the robot is considered as _____.	1.5	CO2
10	An AI agent perceives and acts upon the environment using___.	1.5	CO2
11	Rational agent will always do the right things. (True or False)	1.5	CO1
12	If according to the hypothesis, the result should be positive, but in fact it is negative, then it is known as_____.	1.5	CO1
13	The best AI agent is one which_____.	1.5	CO2
14	Artificial Intelligence means to mimic a human. Hence, if a robot can move from one place to another like a human, then it comes under Artificial Intelligence. (True or False)	1.5	CO2

15	"In AI, we study the whole universe by dividing it into two components." What are these two components?	1.5	CO1
16	"The classification of the environment is independent of the type of AI model being used." (True or False)	1.5	CO2
17	Explain the term "Cognitive Psychology".	1.5	CO1
18	_____ modeling is the method using which we learn to program a computer to exhibit human intelligence.	1.5	CO2
19	Briefly describe the ethical issues in AI.	1.5	CO2
20	Differentiate between : supervised and unsupervised learning	1.5	CO1
	Section B	**(4Qx5M=20 Marks)**	CO
Q	Statement of question		
1.	Discuss the various drivers of AI in Healthcare responsible for its growth.	5	CO1
2.	Elaborate on any 5 applications of AI in Healthcare	5	CO1
3.	Bring out the challenges in the healthcare industry in implementing AI.	5	CO1
4.	Discuss on the importance of medical imaging in healthcare and also explain how AI helps in diagnosis.	5	CO2
	Section C	**(2Qx15M=30 Marks)**	
Q	Statement of question		CO
1.	"Healthcare system in India showcases a huge gap in quality of services provided in urban and rural areas." Comment.	15	CO2
2.	Discuss on the reasons for considering Supervised Learning Algorithms over Unsupervised Learning Algorithms in case of healthcare.	15	CO1
	Section D	**(2Qx10M=20 Marks)**	
Q	Statement of question		CO
1.	Using examples explain Regression and Classification.	10	CO1
2.	Elaborate on the reasons for worldwide adoption of EHR in various hospitals.	10	CO2