

Name:	
Enrolment No:	

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

Course: Computer Applications	Semester: 2nd
Programme: BSc.(FND)/ BSc. (Microbiology)/ BSc.(Clinical Research)/ B.Tech (Food Technology)/ B.Tech (Biotechnology)/ Int. BSc. MSc.(Clinical Research)/ Int. BSc. MSc.(Microbiology)/ Int. BSc. MSc.(Nutrition & Dietetics)	Time: 03 hrs.
Max. Marks: 100	Course Code: HSCC 1009

SECTION A

1. This section consists of 20 questions and each question will carry 1.5 marks
2. Complete the statement / Select the correct answer(s)

S. No.	Question	Marks	CO
Q1	A special request originated from some device to the CPU to acquire some of its time is called _____ a) Disturbance b) Attenuation c) Interrupt d) Noise	1.5	CO1
Q2	Components that provide internal storage to the CPU are _____ a) Registers b) Program Counters c) Controllers d) Internal chips	1.5	CO1
Q3	The LSB and MSB of 13456797 are ____ and ____ a) 1,7 b) 4,7 c) 7,1 d) 4,1	1.5	CO1
Q4	The 2's complement of 15 is _____ a) 0000 b) 0001 c) 0010 d) 0100	1.5	CO1
Q5	ABC is a valid hexadecimal number. a) True	1.5	CO1

	b) False		
Q6	The binary number 111 in its 2's complement form is _____ a) 010 b) 001 c) 000 d) 111	1.5	CO1
Q7	2's complement is obtained by adding 1 to 1's complement of a number. a) True b) False	1.5	CO1
Q8	A DFD is always accompanied by a data dictionary. a) True b) False	1.5	CO1
Q9	In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project. a) documentation b) flowchart c) program specification d) design	1.5	CO1
Q10	The _____ operator takes the results of two queries and returns only rows that appear in both result sets. a) Union b) Intersection c) Difference d) Projection	1.5	CO2
Q11	A _____ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys. a) Schema diagram b) Relational algebra c) Database diagram d) Schema flow	1.5	CO2
Q12	A _____ in a table represents a relationship among a set of values. a) Column b) Key c) Row d) Entry	1.5	CO2
Q13	Does software wear & tear by decomposition? a) Yes b) No	1.5	CO2

Q14	To insert a video, we use a video tag and set its src attribute to a local or remote URL containing a playable movie. a) True b) False	1.5	CO2
Q15	Which of the following is not a mechanism for pharmacokinetic analysis? a) Compartment analysis b) Non compartment analysis c) Physiologic modeling d) Human model	1.5	CO3
Q16	Which statement related to barcode scanning is correct? a) Barcode scanning initially reduces medication administration time. b) Barcode scanning initially increases medication administration time. c) Barcode scanning has been found to be fail safe. d) Barcode scanning has been found to be too expensive for practical use.	1.5	CO3
Q17	Transcription process involves which of the following a) Conversion of DNA into mRNA b) Conversion of RNA into DNA c) Conversion of DNA into protein d) Conversion of protein into DNA	1.5	CO4
Q18	Which of the following is a program that models the pattern recognition capability of human brain. a) An expert system b) Artificial intelligence c) Neural network d) Development engine	1.5	CO5
Q19	If a university sets up a web based information system that faculty could access to record student grade and to advice students, that would be an example of a/an: a) CRM b) Intranet c) ERP d) Extranet	1.5	CO5
Q20	The general transformation phases for information is: a) Information to data to knowledge b) Knowledge to data to information c) Data to knowledge to information d) Data to information to knowledge	1.5	CO5

SECTION B

1. This section consists of 4 questions and each question will carry 5 marks

2. Write short notes

Q21	Perform: a) $(101101)_2 + (1001)_2$ b) $(10001)_2 * (101)_2$	5	CO1
Q22	Explain how intelligent patient monitoring system uses Artificial Intelligence to simulate the way medical professionals analyze and draw decisions in patient care?	5	CO3
Q23	How the discovery of computational algorithms and software tools can facilitate the understanding of biological processes? Explain.	5	CO4
Q24	The storage and retrieval of biological data plays a vital role in the management of biological information. Explain various ways how the biological data can be effectively organized and managed.	5	CO4

SECTION C

1. This section consists of 2 questions and each question will carry 15 marks

2. Write brief notes

Q25	<p>A teacher Ms. Ginni is required to maintain the record of marks of the students studying in the Bioinformatics subject. As a database administrator, Ms. Ginni has decided that</p> <ul style="list-style-type: none"> • Name of the database – Bioinformatics • Name of the table – GRADES • The attributes of GRADES are as follows: RNo - numeric Name – character of size 20 Marks – numeric <p>Table: GRADES</p> <table border="1"> <thead> <tr> <th>RNo</th> <th>Name</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Anand</td> <td>88</td> </tr> <tr> <td>11</td> <td>Sunil</td> <td>75</td> </tr> <tr> <td>13</td> <td>Pankaj</td> <td>64</td> </tr> <tr> <td>12</td> <td>Andrew</td> <td>94</td> </tr> <tr> <td>14</td> <td>John</td> <td>91</td> </tr> </tbody> </table> <p>(1) Identify the attribute which defines the table uniquely. (2) Write the query in SQL to delete the following data from the given table GRADES. RNo = 12, Name = “Andrew” and Marks = 94 (3) Ms. Ginni want to insert another table GRADES2 in the database Bioinformatics. Which command will she use? (4) Ms. Ginni wants to display the list of all the tables that exists in the database Bioinformatics. Write the query in SQL to display the same.</p>	RNo	Name	Marks	10	Anand	88	11	Sunil	75	13	Pankaj	64	12	Andrew	94	14	John	91	15(2.5 +5+2.5 +5)	CO2
RNo	Name	Marks																			
10	Anand	88																			
11	Sunil	75																			
13	Pankaj	64																			
12	Andrew	94																			
14	John	91																			
Q26	<p>Mr. Raj is handling the position of System Administrator of a Hospital. He has a responsibility to manage the following:</p> <ol style="list-style-type: none"> 1. Patient Registration 2. Payroll and HR Management 	15(3+3 +3+3+ 3)	CO5																		

	3. Appointment Management 4. Telemedicine Management 5. Pharmacy Management In your opinion, Mr. Raj should follow which architecture/processes so that each of the responsibility can be effectively and efficiently managed. Justify your answer by providing suitable illustrations.		
SECTION-D 1. This section consists of 2 questions and each question will carry 10 marks 2. Write long notes			
Q27	Differentiate between central patient monitoring system and constant patient monitoring system on the basis of roles, processes and architecture. <p style="text-align: center;">OR</p> Describe the role of computer in automated dispensing of drugs.	10	CO3
Q28	Discuss effect of bioinformatics as data analysis in Vaccine Discovery.	10	CO4