Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE

PRN: 1032210755

End Semester Examination

May-June 2023

CET2002B - DBMS

Schedule ID: 18409

Faculty/School	Faculty of Engineering & Technology	**Term**	IV
Program	Second Year B. Tech	**Duration**	**1 Hours 30 Minutes**
Specialization		**Max. Marks**	**40**

Read the instructions provided for every question properly before attempting the answer.

Section - 1 : contain(s) **10** question(s) and each question carries **5** mark(s).You can answer any **8** questions out of **10.**

Click **Finish** only after completion of the Exam.

Section - 1 (8 X 5 Marks)
Answer any 8 questions

1	A university registrar's office maintains data about the following entities: • courses, including number, title, credits, syllabus, and prerequisites; • course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom; • Students, including student-id, name, and program; and • instructors, including identification number, name, department and title. Further, the enrollment of students in courses and grades awarded to students in each course the are enrolled for must be appropriately modeled. i) Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.	**5 marks**	CO1	Understanding

2	Consider a relation named EMP-DEPT with attributes Ename, SSN, BDate, Address, Dnumber, Dname, and DMGRSSN. Consider also the set of G functional dependencies for EMP_DEPT. G={SSN--> Ename, Bdate, Address, Dnumber-->Dname ,DMGRSSN}. solve the following using G 1. List an update anomaly that can occur for relation EMP-DEPT 2. List an insertion anomaly that can occur for relation EMP-DEPT 3. List a deletion anomaly that can occur for relation EMP-DEPT 4. Is the set of functional dependencies G minimal? 5. calculate closure SSN+ and Dname+ with respect to G	**5 marks**	CO2	Remembering
3	Explain with a diagram the different stages of query optimization?	**5 marks**	CO2	Remembering
4	Explain any 5 CODD's rule to be specified by RDBMS.	**5 marks**	CO2	Remembering
5	Consider the following database schema: Physician (reg_no,name,tel_no, city) Patient(p_name,street,city) visit(p_name,reg_no,date_of_visit, fee) Write SQL queries for following requirements 1) Find the name and city of patients who visited a physician on 13 July 2017. 2) Get the name of the physician and the total no. of patients visited him 3) Get the details of date wise fees collected at clinic. 4) Get the maximum number of patient visited on any date. 5) Get the average fees paid by patient.	**5 marks**	CO3	Evaluating
6	Write Pl/SQL block of code(procedure) for following requirement: Student_fees(PRN,S_name,class,fees_paid) Accept the PRN of student from user, check the fees paid by student, if fees paid is less than 30,000 then display the message on screen Not paid full fees, and display the total fees due. If fees_paid is greater than or equal to 30,000 then display message no fees due.	**5 marks**	CO4	Applying
7	Create a trigger to simulate Trash for mailbox. If any mail gets deleted from mailbox, same row must get stored in trash. Consider the following tables. mailbox(mail_id,mail_text) trash(mail_id,mail_text)	**5 marks**	CO4	Applying

8	Exaplain the Complex Data Type in DBMS. Create a table called "events" that will store (event_name, visitors, properties and browser_name) information using MYSQL and JSON data type and perofm the following command 1. creation of table 2. insertion of record from table 3. selection of json record from table	**5 marks**	CO4	Creating
9	Explain the Concept of Conflict Serializability with example. Since every conflict-serializable schedule is view serializable, why do we emphasize conflict serializability rather than view serializability?	**5 marks**	CO5	Analysing
10	Consider a recovery management with a check point and the following set of operations in the log. (start, T4); (T4, y, 2, 3); (start, T1); (commit, T4); (T1, z, 5, 7); **(checkpoint)**; (start, T2); (T2, x, 1, 9); (commit, T2); (start, T3); (T3, z, 7, 2); **CRASH** If a crash at given state , identify undo and redo operations for the above under recovery process.	**5 marks**	CO5	Analysing

END OF QUESTION PAPER