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| **Name:**  **Enrolment No:** | | upes-new-logo | | |
| UNIVERSITY OF PETROLEUM AND ENERGY STUDIES **School of Computer Science** Mid Semester Examination, October 2019Course : Advanced Database Management Systems Semester : III **Program : B. Tech. Cse with All Specialization Time : 01 Hour**  **Course Code : CSEG2017 Max. Marks : 20**  **Instructions : All questions are compulsory** | | | | |
| **SECTION A** | | | | |
|  |  | | **Marks** |  |
| Q 1 | What is Data Independence? Explain the different types of Data Independence. | | **02** | **CO1** |
| Q2 | Differentiate among primary key, candidate key and super key. | | **02** | **CO1** |
| Q3 | Consider these relations , where the underlined attributers are the keys:  Supplier(scode, sname, status, scity) Part(pcode, pname, color, weight, pcity)  Supplier\_Part(scode, pcode, qty)  Write SQL queries for each of these:  a) Display the supplier names who supply at least one red color part.  b) Display the supplier names who do not supply part having pcode 425 | | **02** | **CO4** |
| Q4 | Discuss the steps involved in query processing. | | **02** | **CO4** |
| **SECTION B** | | | | |
| Q5 | Suppose you are given the following requirements for a simple database for the Indian Premier League (IPL):  • IPL has many teams  • Each team has a name, a city, a coach, a captain, and a set of players  • Each player belongs to only one team  • Each player has a name, a position (batsman, bowler, all-rounder, wicket keeper), a skill level, and a set of injury records  • Team captain is also a player  • A game is played between two teams (referred to as host\_team and guest\_team) and has a date (such as May 11th, 1999) and a score (such 201/7, 199/6).  Construct a clean and concise ER diagram for the IPL database. List your assumptions and clearly indicate the cardinality mappings as well as any role indicators in your ER diagram. | | **06** | **CO2** |
| Q6 | Consider a relation R(A, B, C, D, E) with FD's:{ A → B, BC → E, ED → A}   * List all the keys of R * Identify the functional dependencies that violate 2NF, 3NF, BCNF. | | **06** | **CO5** |