



**K. K. Wagh Institute of Engineering Education & Research, Nashik**  
(An Autonomous Institute From A.Y. 2022-23)

	InSem Examination-II Summer 2024		
	Exam Seat No.:		
	Academic Year: 2023-2024	Semester: IV	
	Name of Programme: S. Y. B. Tech (IT)	Pattern: 2022	
	Name of Course: Database Management System	Course Code: INT222012	
	Max. Marks: 30	Duration: 1 Hr	

	<p><b>Instructions:</b> Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.</p> <ol style="list-style-type: none"><li>1. This question paper contains Two page(s).</li><li>2. Answer to each new question is to be started on a new page.</li><li>3. Assume suitable data wherever required, but justify it.</li><li>4. Draw the neat labelled diagrams, wherever necessary.</li><li>5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.</li></ol>	
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**Question No. 1 Attempt following Question**

- a) Describe the overall architecture of DBMS with diagram. (5) CO5

**OR**

- b) What is Data Modeling and Explain Data Modeling Types? (5) CO5

- c) What is DBMS? Functions of DBMS. Disadvantages of File processing system. (5) CO5

**OR**

- d) Enlist and explain any two Codd's rules for relational database systems with example. (5) CO5

- e) How to convert an ER diagram into tables? (5) CO5

**OR**

- f) What is data Independence and explain its types. (5) CO5

**Question No. 2 Attempt following Question**

- a) What is Normalization? State and Explain 2NF and 3NF. (5) CO4, CO5

**OR**

- b) Write a short note on BCNF. (5) CO4, CO5

- c) **What is mean by Functional dependencies and explain the types of Functional dependencies.** (5) CO4,  
CO5

**OR**

- d) **What is joining? Explain Inner Join and Right Join with example.** (5) CO4,  
CO5

- e) **What is the difference between 3NF and BCNF?** (5) CO4,  
CO5

**OR**

- f) **We store each employee's name (first, last, MI), Social Security number (SSN), street address, salary, sex (gender), and birth date. An employee is assigned to one department, but may work on several projects, which are not necessarily controlled by the same department. We keep track of the current number of hours per week that an employee works on each project. We also keep track of the direct supervisor of each employee (who is another employee)** (5) CO5