PADRE CONCEIÇÃO COLLEGE OF ENGINEERING, VERNA-GOA

TUTORIAL NO: 4 (Batch 1)

Semester: II (RC 2019-'20) **Course:** FE210
Course Instructor: Prof. Komal Paroolkar Mathematics-II

Topic: Double Integration in Cartesian coordinates.

		<u>CO</u>	<u>CL</u>

Q1. Evaluate $\int_0^1 \int_0^1 y e^{xy+2y} dxdy$. **CO1 CL3**

Q2 Evaluate $\int_0^1 \int_0^{x^2} x(x^2 + y^2) dxdy$ **CO1 CL3**

Q3 Evaluate $\iint 3x + 2 \, dxdy$ over the region enclosed by $y = x, \ y = 2x - 2 \ and \ y = 0$. **CO1 CL3**

Q4. Evaluate $\iint xy \, dxdy$ over the region bounded by $x + y = 2 \ and \ y = \ x^2$. **CO1 CL3**

Q5. Evaluate $\iint xy \, dxdy$ over the triangle having vertices $(0,1), (1,1) and \ (1,2)$

CO1 CL3

PADRE CONCEIÇÃO COLLEGE OF ENGINEERING, VERNA-GOA

TUTORIAL NO: 4 (Batch 2)

Semester: II (RC 2019-'20) **Course:** FE210
Course Instructor: Prof. Komal Paroolkar Mathematics-II

Topic: Double Integration in Cartesian coordinates.

		<u>CO</u>	<u>CL</u>
Q1.	Evaluate $\int_0^1 \int_0^1 y e^{xy} dx dy$	**CO1**	**CL3**
Q2	Evaluate $\int_0^1 \int_0^{\sqrt{1-y^2}} \frac{1}{1-(x^2+y^2)} dx dy$	**CO1**	**CL3**
Q3	Evaluate $\iint 2x \, dx dy$ over the region enclosed by $y - x = 1, x - y = 1, y = 1 \ and \ y = 0.$	**CO1**	**CL3**
Q4.	Evaluate $\iint xy + 5 \, dx dy$ over the region bounded by $y = 2x \ and \ y = x^2.$	**CO1**	**CL3**
Q5.	Evaluate $\int_0^\infty \int_x^\infty \frac{e^{-y}}{y} dx dy$	**CO1**	**CL3**

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PADRE CONCEIÇÃO COLLEGE OF ENGINEERING, VERNA-GOA

TUTORIAL NO: 4 (Batch 3)

Semester: II (RC 2019-'20)
Course Instructor: Prof. Komal Paroolkar

Course: FE210
Mathematics-II

Topic: Double Integration in Cartesian coordinates.

	CO	**CL**

Q1. Evaluate $\int_0^1 \int_0^{\sqrt{1+x^2}} \frac{1}{\sqrt{1+x^2-y^2}} \, dx \, dy$ **CO1**   **CL3**

Q2 Evaluate $\int_0^1 \int_0^{x^2} e^{\frac{y}{x}} dx \, dy$ **CO1**   **CL3**

Q3 Evaluate $\iint x^2 \, dx \, dy$ over the region enclosed by $xy = 16, \ y = x, y = 0,$ and $x = 8 \ lying \ in \ the \ first \ quadrant.$ **CO1**   **CL3**

Q4. Evaluate $\iint (x + y) dx \, dy$ over the region enclosed by the curves $x = 0, x = 2, y = x \ and \ y = x + 2.$ **CO1**   **CL3**

Q5. Evaluate $\int_0^\infty \int_0^x x \, e^{-x^2/y} dx \, dy$ **CO1**   **CL3**

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