

Roll No.																			
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Department of Research & Development
Mid - Term Examinations - SEPTEMBER 2024

Odd Semester: Ph.D. Course Work	Date: 27 /09/2024
Course Code: RES801	Time: 2:00pm – 3:30pm
Course Name: Research Methodology and Publication Ethics for Engineering (RMPEfE)	Max Marks: 50
Department: CIVIL Engineering	Weightage: 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 5 marks.		4Qx5M=20M
1	The researcher must at the same time examine all available literature to get himself acquainted with the selected problem. He may review two types of literature—the conceptual literature concerning the concepts and theories, and the empirical literature consisting of studies made earlier which are similar to the one proposed. The basic outcome of this review will be the knowledge as to what data and other materials are available for operational purposes which will enable the researcher to specify his own research problem in a meaningful context. Analyze the role of literature review in identifying research gaps. How does this impact the formulation of research questions or hypotheses?	5 Marks
2	Describe the different types of charts and plots used in data visualization (e.g., bar chart, histogram, scatter plot). How do these visual tools help in drawing meaningful insights from data?	5 Marks
3	During our discussions in research methodology initial classes of this academic year, wherein I have mentioned that the things that we can write down and call knowledge about the world come in three broad categories. How the Enquiry wheel you are going to use in your proposed research work. With a neat flow diagram explain each step of enquiry wheel. Illustrate your answer by examples wherever possible. Your answer will be evaluated on holistic basis.	5 Marks
4	The procedure of testing hypothesis requires a researcher to adopt several steps. Describe in brief all such steps.	5 Marks

Part B

Answer ALL Questions. Each question carries 15 marks.		2QX15M=30M
5	Discuss the process of data analytics, from data preparation to operationalization. Explain various data visualization techniques available in Excel, SPSS, and Python. How do these techniques aid in communicating research findings effectively?	15 Marks
6	A CompTech, Laptop Retail shop near Eco-world at Belanduru, Bengaluru has been having average sales of 120 Laptops per day. Because of the development of IT Park nearby, it expects to increase its sales. During the first 10 days after the start of the IT Park, the daily sales were as 145, 140, 110, 125, 135, 145, 160, 155, 100, 150, 130, and 126. On the basis of this sample information, can one conclude that CompTech sales have increased? Use a 5% level of significance.	15 Marks