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**E Reg. No. :**

**Question Paper Code: 56P61**

Ph.D. COURSE WORK EXAMINATION, NOV 2017

Elective

Structural Engineering

15PSE601 – RESEARCH METHODOLOGY

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

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| --- | --- | --- | --- | --- |
| 1. | (a) | Define review of literature. Discuss its purposes, uses and methods of writing a literature review. | CO1- U | (20) |
|  |  | Or |  |  |
|  | (b) | How do you define research problem? Explain the various techniques used in defining a problem. | CO1- U | (20) |
|  |  |  |  |  |
| 2. | (a) | Define research design. Briefly explain about the various types of research designs and the factors influencing the research design.  | CO2- Ana | (20) |
|  |  | Or |  |  |
|  | (b) | Write a note on how a Research plan will be developed from Exploration to Experimentation? | CO2- U | (20) |
|  |  |  |  |  |
| 3. | (a) | Discuss about the various techniques used for data collection.  | CO3- Ana | (20) |
|  |  | Or |  |  |
|  | (b) | Where analysis of variance (ANOVA) is used. Explain with suitable examples. Also explain how the multivariate ANOVA is different from simple ANOVA  | CO3- U | (20) |
|  |  |  |  |  |
| 4. | (a) | Explain the various types of research reports with examples. | CO4- U | (20) |
|  |  | Or |  |  |
|  | (b) | Explain the different types of research reports. | CO4- U | (20) |
|  |  |  |  |  |
| 5. | (a) | Explain how the copy right and royalty can be obtained using the IPR and Patent Law.  | CO5- Ana | (20) |
|  |  | Or |  |  |
|  | (b) | How the published material can be reproduced and explain plagiarism. | CO5- Ana | (20) |
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