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EIGHTH SEMESTER   **B.Tech. [SE]**

MID SEMESTER EXAMINATION   *March-2019*

SE404 EMPIRICAL SOFTWARE ENGINEERING

Time: 1:30 Hours   Max. Marks: 30

Note: All Questions are compulsory. Assume missing data, if any.

1. Answer all the following questions: [2*5=10]
[a] Highlight the importance of replicated and repeated studies in empirical software engineering.
[b] Differentiate between within-company and cross-company analysis.
[c] Describe properties of five measurement scales with example.
[d] Hypothesis testing is based on the assumption that null hypothesis is correct. Outline the steps followed to perform hypothesis testing?
[e] How are attribute selection techniques different from attribute extraction techniques?

2. Answer all the following questions:
[a] Explain the different phases involved in empirical study process.   [5]
[b] Provide stepwise guidelines for performing systematic literature review for software defect prediction.   [5]

3. Answer all the following questions:
[a] Consider the following data collected for number of faults in software modules:
Fault Count: 332, 212, 106, 102, 93, 63, 23, 9, 9, 4
Compute measures of central tendency and check for the normality. Identify outliers using z-score and box plot.   [2+3=5]
[b] Explain CK metric suite. Consider that the threshold value of CBO metric is 8 and WMC metric is 15. What do these values signify? What are the possible corrective actions according to you that a developer must take if the values of CBO and WMC exceed these values?   [3+1+1=5]

END