P.K Singh

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 Summer Sem. EXAMINATION- 2018

B.Tech., 6th Semester

COURSE CODE: 10B11CI512 MAX. MARKS: 50

COURSE NAME: Software Engineering

COURSE CREDITS: 4 MAX. TIME: 2 HR

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Section A: All Questions Carry Three Marks [2 X 3= 06 Marks]

1. List out the requirement elicitation techniques. Which one is most popular and why?

2. Discuss the Prototype model. What is the effect of the designing a prototype on the overall cost of the software project ?

Section B: All Questions Carry Five Marks [4 X 5= 20 Marks]

3. What kind of strategy to be followed for good system design ? Explain the various categories of techniques / strategies used for performing system design along with suitable figure and merits and demerits of each one.

4. Explain the role of cohesion and coupling in software design. Explain the each type of cohesion and coupling along with the best to worst case in each category.

5. Discuss the Significance and use of the requirement engineering. What are the problems in the formulation of requirements ?

6. Draw the Context Diagram and Use Case Diagram for the Online Bus Ticket Booking System. [You may take example of any online bus ticket booking system:- HRTC]

Section C: All Questions Carry Eight Marks [3 X 8= 24 Marks]

7. Consider a Project with the following functional units:

Number of user inputs = 50
Number of user outputs = 40
Number of user enquiries = 35
Number of user files = 06
Number of external interfaces = 04

Assume all complexity adjustment factors and weighting factors are average. Compute the function points for the project.

8. Consider a project with the following parameters.
(i) External Inputs: (a)10 with low complexity (b)15 with average complexity (c)17 with high complexity
(ii) External Outputs: (a)6 with low complexity (b)13 with high complexity
(iii) External Inquiries: (a) 3 with low complexity (b) 4 with average complexity (c) 2 high complexity
(iv) Internal logical files: (a)2 with average complexity (b)1 with high complexity
(v) External Interface files: (a)9 with low complexity
In addition to above, system requires
i. Significant data communication
ii. Performance is very critical
iii. Designed code may be moderately reusable
iv. System is not designed for multiple installation in different organizations.
Other complexity adjustment factors are treated as average. Compute the function points for the project.

9. Suppose that a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three modes i.e., organic, semidetached and embedded.