Con. 3292-08.   (REVISED COURSE)   CO-2983

(3 Hours)   [Total Marks : 100]

N.B. :   (1) Question No.1 is **compulsory**.
         (2) Attempt any **four** questions from remaining questions.
         (3) Assume **data** if **required**.

1. (a) Define process. Explain incremental model of software development give example where   **10**
       the model can be applied and justify your example.

   (b) Explain CMM and the Key Process Areas at each level.   **10**

2. (a) Draw activity diagram and Gantt chart for the following :—   **10**

Activity	Predecessor	Duration (in weeks)
A	—	2
B	A	3
C	—	2
D	A, C	3
E	D	4
F	A, D	3
G	B, E	2
H	G	3

   Find minimum duration required to complete the project.

   (b) When does the project planning activity chart and end in a software life cycle ? Let the   **10**
       important activities software project managers perform during project planning.

3. (a) Suppose you are developing a software product in the organic mode. You have esti-   **10**
       mated the size of the product to be 70695 lines of code, compute effort and develop-
       ment time. Assuming cost of 25,000 person month calculate total cost of the product
       (constants ba = 2.4, bb = 1·05, bc = 2·5, bd = 0·38)

   (b) Explain different metrics for size estimation. What are their advantages and disadvantages.   **10**

4. (a) Define SCM. Waht is configuration audit. Explain change management.   **10**
   (b) Based on the following statements, identify whether this is a project, product, process   **10**
       risk. Justify your identification.
       (i) Size of software is estimated wrong by 15%.
       (ii) Critical functions and features did nmot get communicated to the system analyst.
       (iii) Report generator's capabilities did not conform to the promised capabilities in
            the product literature.
       (iv) RAD Model is selected instead of incremental.
       (v) Due to work pressure, prototype not developed.

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5. (a) Draw control flow graph for the PAL. Calculate CC using all method.

s1,
s2,
while (c1)
begin

s4,
if(c2) s4 ; else s5 ;
if(c3) s6 ; else s7 ;
do s8 ; while (c4) ;

end
s9 ;
if (c5 or c6) s10 ; else s11 ;
s12.

(b) Explain different types of System Tests and give example of each.

6. (a) Explain different activities performed during Risk Management. Which process Model   10
includes Risk analysis as it's activity.

(b) Explain coupling and cohesion. Good design must have high degree of coupling or   10
cohesion. Justify the statement "Maintenance cost increases with Low degree of coupling".

7. (a) Explain different quality attributes.   20
(b) Differentiate between White box and Black box testing.
(c) Match the quality parameters and software quality metrics that will achieve the best SQA
performance

Quality Parameter	Quality Metrics
*Accuracy	*Correctness
*Completeness	*Reliability
*Consistency	*Integrity
*Expandability	*Testability Usability
*Modularity	*Maintainability

(d) What are different types of maintenance, give example of each. Suggest measures to
be taken to reduce maintenance cost.

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