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0409
Second Third Year B. C. A. Examination
October / November - 2005
Software Engineering

(11)

Time : Hours]

[Total Marks : 70

Instructions :

Fill up the details of signs as given in answer book.

Name of the Examination : **B. C. A. - 3**

Name of the Subject : **Software Engineering**

Subject Code No. : **0 4 0 9** Section No. (1, 2) : **Nil**

Seat No. : [] [] [] [] [] [] [] []

Student's Signature

- 1 Answer the following questions :
- (i) Explain how software differs from hardware.
 - (ii) Find out in which software application category the following software belongs to :
 - (a) File splitting utility
 - (b) A software for weather forecasting
 - (c) Software for online trading
 - (d) A ROM-BIOS software.
 - (iii) Explain in brief :
 - (i) Software is not manufactured, but developed.
 - (ii) Software doesn't wear out, it deteriorates with time.
 - (iv) List out the elements of structured analysis model.
 - (v) Explain 40-20-40 rule.
 - (vi) List out important quality attributes that software should have.
 - (vii) Define "Software testing."

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2 Answer any two :

- (a) Write detailed note on "Software types" with examples.
- (b) Write a note on "Software characteristics". Explain each of them.
- (c) Explain various types of software maintenance activities giving example for each type.

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3 Answer the following :

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- (a) (i) Explain which documents are generated during entire software development life cycle. Also give importance of each of them. *SRS, design doc, test spec, user doc*
- (ii) Explain the principles of requirement analysis. Also explain as being an analyst how will you gather information/requirements ?

OR

(a) Draw the DFD (min. up to 2nd level) for the following system.

We require a software for SICE computer lab which helps faculties for assigning the lab work for various computer subjects to the students of various classes and verifying them. With the assignments the submission date is also given alongwith fix file-name for each problem in assignment, which is displayed as a web-page in the lab. By the submission date the students have to complete their lab work and submit them (whatever the work they have completed) to the lab assistants for getting print-outs. The submission is to be done in a folder at centralized server. This centralized server contains a separate folder for each student (in which there are folders for each assignment work) from where the print-outs can be taken as well as faculties can verify the work on the computer itself. There should be a facility for faculty to approve or reject the work which can be displayed as an index page for each student when they log-in in to the system. In case of rejection, the student can be asked to reperform it and submit it once again for verification. The system should not allow any student to submit the work once the submission date is over. The system should provide security of the work done by the student so that no body else (except the student who performed it) can read, modify or delete or copy it. They faculty can only read the files and the lab assistants can only print the files.

4 Answer any two :

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- (i) What is functional independence ? How can we achieve higher functional independence ? Explain why one should prefer high cohesion and low coupling ?

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(ii) Give practical examples of 'Abstraction' and "Refinement" concepts in software development. Abstraction and Refinement are complementary concepts. Justify the statement with reason.

(iii) Explain entire design process in brief. ³²⁸

5 Answer any two :

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(i) Write detailed note on CASE tools and also explain any two of them. ⁴⁴³ _{been use send}

(ii) As being a test manager, what testing strategy you will use and why ?

(iii) Explain integration testing in detail. _{not}

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