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B.Tech. Examination, 2013

(Fourth Semester)

(IT Branches)

Paper - VI

SOFTWARE ENGINEERING

Time Allowed : Three Hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry
equal marks.

Q. 1. (a) Define the term Program, System & Software.

**Discuss the types of software and its various
characteristics.**

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P.Y.O.

(2)-

(b) What do you mean by 99% complete

syndrome. Explain the term software crisis

and reason behind it.

Q. 4.

Q. 2. (a) Compare spiral model and prototyping
model.

(b) Explain iterative waterfall model and also
explain which kind of project uses it. Write the
advantages of iterative waterfall model.

Q. 3. (a) Write a short note on evolutionary development
model. Also states its merits and demerits

(3)

(b) Explain IEEE standard for SRS. What do you

mean by requirement analysis? Explain its

phases

Q. 4. (a) Draw the complete DFD atleast upto 2-levels

for root-mean-square (RMS) calculator. Write

limitation of Data Flow Diagram.

(b) Illustrate Halstead's software science of

software measurement and metrics. Calculate

the cyclomatic complexity in basic path

testing? Assume procedure and calculate

cyclomatic complexity for that procedure

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(4)

Q. 5. (a) Discuss coupling and cohesion with their types in detail.

(b) (i) List the principles of testing.

~~2~~ (ii) Explain the use of driver and stub modules with suitable example.

(iii) What do you mean by Regression Testing.

Q. 6. (a) List various key process areas of CMM at various maturity levels. Give difference between ISO-9000 and SEI-CMM Standards.

(b) What is a risk ? Explain risk management & list some potential risks.

(5)

Q. 7. Write short notes on :

- (i) Basic COCOMO model**
- (ii) Difference between validation and verification**
- (iii) Corrective & perfective maintenance**
- (iv) Brief about CASE tools**

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B.Tech. Examination, 2014
(Fourth Semester)
(IT Branches)
Paper - VI

SOFTWARE ENGINEERING

Time Allowed : Three Hours

Maximum Marks : 100

Note : Attempt any five questions. Each question carry
equal marks.

**Q. 1. (a) What is the principle aim of the software
engineering discipline ? What does the discipline
of software engineering discuss ?**

10

P.T.O.

601

(2)

(b) What is evolutionary development model and

give its advantages and disadvantages. 10

Q. 2. (a) List give desirable characteristics of Good

SRS document. Discuss the relative

advantages of formal and informal requirement

specification. 10

(b) What is difference between SEI-CMM and

ISO standards ? 10

Q. 3. (a) For the following 'C' program estimate the

Halstead's length and volume measures : 10

(3)

```
{ main ( )
```

```
    int a, b, c, avg;
```

```
    scanf ("%d %d %d", sa, sb, sc);
```

```
    avg = (a + b + c)/3;
```

```
    printf ("avg = %d", avg);
```

```
}
```

(b) What are the benefits of E-R diagram ? Also

draw E-R diagram for book store (suitable

assumptions may be taken).

10

(4)

Q. 4. (a) What do you understand by software project

management ? Give general activities of

project management.

10

Q.

(b) What are the objective of software testing ?

Write a note on :

10

(i) White Box testing

(ii) Black Box testing

Q. 5. (a) Discuss typical software risk. What

techniques can we use to control each risk ? It

is possible to prioritize the risk, explain. 10

(5)

(b) Write note on CASE tools. Also state benefits

of CASE tool log software engineering. 10

Q. 6. (a) Discuss the uses of data flow diagrams

(DFD) for software development process.

Draw a DFD for library management software

with usual function.

10

(b) What is difference between coding standard

and coding guidelines ? Why are these

considered important in software development

organisation ?

10

(6)

Q. 7. Explain the following :

(i) COCOMO Models

5

(ii) Coupling

5

(iii) Code Inspection

5

(iv) Iterative enhancement model

5

2456

~~Ajay~~

(batches)

B.Tech. Examination, 2015
(Fourth Semester)
(I.T. Branches)
Paper - VI

SOFTWARE ENGINEERING

Time Allowed : Three Hours

Maximum Marks : 100

Note : Attempt any five questions. Each question carry equal marks.

Q. 1. (a) What is the difference between software engineering and conventional engineering. 10

(b) What do you mean by software reliability and software availability, also discuss how they are measured. 10

Q. 2. (a) Compare waterfall model and spiral model of software development. 10

(b) What is software life cycle models and discuss different software life cycle models. 10

Q. 3. (a) What is DFD ? Also explain different levels of DFD in brief. 10

9

2015 (2)

100

- (b) What is feasibility study ? How to conduct a feasibility study ? 10
- Q. 4.** (a) What is software project management ? Explain in brief ? 10
- (b) What is software testing ? Explain basic path testing using flow graph analysis in detail. 10
- Q. 5.** (a) Discuss the difference between black box and structural testing and suggest how they can be used together in the defect process. 10
- (b) What is debugging. What are different approaches for debugging. 10
- Q. 6.** (a) Discuss the difference between object oriented and function oriented design. 10
- (b) What is difference between ISO 9000 and SEI-CMM model. 10
- Q. 7.** Explain the following points :
(a) COCOMO model 5
(b) Alpha & Beta testing 5
(c) Cohesion 5
(d) Prototype model 5

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B.Tech. Examination, 2016
(Fourth Semester)
(I.T. Branches)

Paper - VI

SOFTWARE ENGINEERING

Time Allowed : Three Hours

Maximum Marks : 100.

Note : Attempt any five questions. Each question carry equal marks.

- Q. 1.** (a) Enumerate and explain the differences between exploratory style and modern software development practices. 10
(b) Define the term "Software Engineering" and distinguish it from computer science. 10
- Q. 2.** (a) What are the limitations of waterfall model ? How can these be rectified ? Explain through an example. 10
(b) Compare iterative enhancement model and evolutionary development model. 10
- Q. 3.** (a) Discuss the relative advantages of formal and informal requirement specifications. 10
(b) Develop the ER diagram that describes data objects, relationship and attributes of a network based course registration system of a university. 10

2016

(2)

- Q. 4.** (a) Discuss the objective of modular software design. What are the effects of module cohesion and coupling ? 10
- (b) Describe the difference between process metric and product metric in your own words ? 10
- Q. 5.** (a) What are the differences between function point analysis and line of code analysis of code ? 10
- (b) What are the major factors to ensure reliability of software ? 10
- Q. 6.** (a) Discuss the difference between worst case and adhoc test case performance evaluation by means of testing. 10
- (b) Give any method with which you are familiar to estimate the cost of a software product. 10
- Q. 7.** Write short notes on :
- (i) Resource Allocation model. 5
 - (ii) Software version control. 5
 - (iii) Constructive cost model (COCOMO). 5
 - (iv) Risk Analysis. 5