Registration No: | | | | | | | | | | |

Total Number of Pages :03 **B.Tech**
PIT3G001

3rd Semester Regular/Back Examination 2017-18
Software Engineering
BRANCH : IT
Time : 3 Hours
Max Marks : 100
Q.CODE : B1243

Answer Question No.1 and 2 which are compulsory and any four from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions: *multiple type or dash fill up type*** **(2 x 10)**

a) A good specification should be?
a) unambiguous
b) distinctly specific
c) functional
d) all of these

b) Which of the following is not a process metric ?
a) Productivity
b) Functionality
c) Quality
d) Efficiency

c) Which of the following is not the characteristic of software ?
a) Software does not wear out
b) Software is flexible
c) Software is not manufactured
d) Software is always correct

d) Project risk factor is considered in ?
a) Spiral Model
b) Waterfall Model
c) Prototyping Model
d) Iterative enhancement Model

e) A good specification should be ?
a) Unambiguous
b) Distinctly Specific
c) Functional
d) All of Above

f) If limited user participation is available, which model is to be selected?
(a) Waterfall model (b) Spiral model
(c) Iterative enhancement model (d) any of the above

g) Software reliability is
(a) The probability of failure free operation of a program for a specified time in a specified environment
(b) The probability of failure of a program for a specified time in a specified environment
(c) The probability of success of a program for a specified time in any environment
(d) None of the above

h) ..... is a black box testing method ?
a) Boundary value analysis
b) Basic path testing
c) Code path analysis
d) None of above

i) The relationship of data elements in a module is called
(a) Coupling
(b) Cohesion
(c) Modularity
(d) None of the above

j) The model remains operative until the software is retired ?
a) Waterfall
b) Incremental
c) Spiral
d) None of these

Q2 **Answer the following questions:** **(2 x 10)**

a) What are the characteristics of a Good Software requirement Specification document?

b) What are the similarities between a walkthrough and an inspection? What are the differences?

c) What is the influence of cohesion on maintenance?

d) Does stepwise refinement correspond to iteration or incrementation? Justify your view.

e) A code artifact is reused, unchanged, in a new product. In what ways does this reuse reduce the overall cost of the product? In what ways is the cost unchanged?

f) Why do you think that, despite its drawbacks, lines of code (LOC) is so widely used as a metric of product size?

g) What is Software reverse engineering and its significance to software reuse.

h) What are the similarities between a walkthrough and an inspection? What are the differences?

i) Why is there a need to distinguish between a fault, a failure, and an error?

j) Define and differentiate between corrective maintenance and perfective maintenance.

Q3 **a)** Define and differentiate between Functional and Non-Functional requirements with example. Mention the attributes of Functional and Non-functional requirements. **(10)**

b) Explain the steps in cost estimation procedure using COCOMO. **(5)**

Q4 **a)** What is the significance of different process models in software devcelopment? How to choose suitable process model for different types software projects. **(10)**

b) Explain Boehm's Spiral model with the help of a schematic diagram. **(5)**

Q5 **a)** What is a Software Prototype? What is the reason for developing a prototype during Software development? What are its associated advantages and disadvantages. **(10)**

b) What are the drivers and stub modules in the context of unit testing of a software product? **(5)**

Q6 **a)** What is Halstead's size measure for two project modules? Compare this size with the size measured in the LOC method. **(10)**

b) Is it true that whenever we increase the cohesion of different modules in our design, coupling between these modules automatically decreases? Justify your answer with the help of an appropriate example. **(5)**

Q7 **a)** What is the difference between Verification and Validation? Also discuss, its significance in Software testing with examples. **(10)**

b) Explain coupling and cohesion in the context of software design. Describe the type of coupling and cohesion. **(5)**

Q8	**a)**	Write the features of good software design and its significance in function oriented, object oriented design? Can quality be measured ?	**(10)**
	b)	What is Regression testing and its significance? Differentiate between Black box and White box testing.	**(5)**
Q9	**a)**	What is software reliability and software availability? Also, discuss how they are measured with examples.	**(10)**
	b)	Discuss the difference between Function testing and Structural testing.	**(5)**