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3 (Sem-4/CBCS) CSC HC2

2024

COMPUTER SCIENCE

(Honours Core)

Paper : CSC-HC-4026

(Software Engineering)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions as directed :

1×7=7

(a) Waterfall model has applicability in situations whose requirements are well-defined and stable.

(State true or false)

(b) Evolutionary models, such as prototyping and spiral model, produce incremental work products quickly.

(State true or false)

Contd.

(c) If every requirement can be checked by a cost effective process, then SRS is called

- (i) traceable
- (ii) modifiable
- (iii) verifiable
- (iv) complete

(d) Full form of SPMP is _____.
(Fill in the blank)

(e) _____ is a procedural cost estimate model for software projects. (Fill in the blank)

(f) _____ is a mathematical model used to predict the effort required to complete a software. (Fill in the blank)

(g) ISO 9000 is a set of internationally recognised standards for quality assurance and management. (State true or false)

2. Define the following terms : $2 \times 4 = 8$

- (a) SRS
- (b) Function point metric
- (c) Heuristic estimation
- (d) DED

3. Answer **any three** of the following questions : $5 \times 3 = 15$

- (a) Write in brief about prototyping model software development life cycle.
- (b) Which is spiral model ? What are the phases of spiral model ?
- (c) What are the characteristics of good and bad SRS ?
- (d) Explain critical path method for project management.
- (e) Briefly explain any five kinds of risks in software development.

4. Answer **any three** of the following questions : $10 \times 3 = 30$

- (a) Explain different ways of requirement gathering process.
- (b) What are the key components of an SRS document ?
- (c) What is software quality assurance ? How to get ISO 9000 certification ? What are the shortcomings of ISO 9000 ?

- (d) Explain the concept of cohesion and coupling in software design. What are function-oriented design and structured design ?
- (e) Differentiate between black box testing and white box testing.
- (f) What is cyclomatic complexity? How to calculate cyclomatic complexity? Describe with a suitable example.
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