

**Exam. Code : 110004**

**Subject Code : 2743**

**Bachelor of Vocation (Web Technology & Multimedia)**

**4th Semester**

**Paper-402 : SOFTWARE ENGINEERING**

Time Allowed—3 Hours] [Maximum Marks—100

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

1. (a) What do you mean by software lifecycle models ?  
Discuss the essence of software lifecycle models. 8
- (b) What is software engineering ? Discuss the principles of software engineering as well as the essential characteristics of a well engineered software product. 12
2. (a) What is software maintenance ? What are its different types ? How are these achieved ? Illustrate. 10
- (b) How are software faults and failures inter-related ? What are different types of software failure ? Also outline the characteristics of fault-free software. 10
3. (a) What is software project planning ? Outline the goals of software project planning as well as the activities involved in software project planning. 10
- (b) What is software requirement engineering ? Why is it so important ? Illustrate. 10

4. What do you understand by software metrics ? What is their essence ? Chart the classification of software metrics and illustrate the relevance of each of these. 20
5. (a) What is software design ? Discuss the design principles in detail. 10
- (b) What is software reliability ? What characteristics of software make software reliability different from hardware reliability ? Discuss. 10
6. (a) What are CASE tools ? What are various types of CASE tools ? Indicate their usefulness. 10
- (b) What is software quality ? What are important software quality attributes ? Explain. 10
7. (a) Differentiate between the following :
- (i) Black-box and White-box testing.
- (ii) Software re-engineering and Reverse Engineering. 10
- (b) What is coding ? Discuss various coding conventions followed while writing programs. 10
8. (a) What is module coupling ? How is it different from module cohesion ? Illustrate different types of coupling and cohesion. 10
- (b) What is software testing ? How is testing important in software lifecycle ? Discuss the objectives of software testing. 10