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# BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

## December 2016 Semester End Main Examinations

Course: Software Engineering  
Course Code: 16CS5DCSWE

Duration: **3 hrs**  
Max Marks: **100**

Date: 20.12.2016

**Instructions:** 1. Answer any five full questions choosing one from each unit.  
2. Assume missing data (if any) suitably

### UNIT 1

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|----------|--|----|
| <b>1</b> | <b>a)</b> Illustrate water fall model with a neat block diagram and also list its merits and demerits.                                 | 08 |
|          | <b>b)</b> Discuss the software requirement engineering process with a neat diagram.  | 06 |
|          | <b>c)</b> Discuss the problems of Natural language specifications and illustrate the importance of structured language specifications. | 06 |

### UNIT 2

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|----------|---|----|
| <b>2</b> | <b>a)</b> Explain the notations of data flow diagram. Based on your experience in a super market, that is, a customer arrives at a checkout with items to purchase, the cashier records the purchase items and collects the payment. On completion, the customer leaves with the items. Develop a DFD that could serve as a basis for understanding the requirements of the system. | 08 |
|          | <b>b)</b> Describe the class hierarchy model and object aggregation model with suitable examples. Draw a suitable model for the Book object which is composed of Author, Publisher and Category objects.  | 08 |
|          | <b>c)</b> Lists the advantages and disadvantages of shared repository model.  | 04 |

### UNIT 3

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|----------|---|----|
| <b>3</b> | <b>a)</b> Interpret the meaning of Boehm's W <sup>5</sup> HH principles in order to define key project characteristics. | 07 |
|          | <b>b)</b> Explain in brief the different approaches to software sizing problem?   | 04 |
|          | <b>c)</b> Explain the empirical estimation models used to estimate the software projects.                               | 09 |

### OR

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|----------|---|----|
| <b>4</b> | <b>a)</b> Outline the different ways to track and control the software projects. Discuss the tracking progress for object oriented project. | 10 |
|          | <b>b)</b> Illustrate how to assess the consequences of a risk? Discuss the process of risk identification and projection.                   | 10 |

#### **UNIT 4**

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|----------|-----------|---|----|
| <b>5</b> | <b>a)</b> | Explain the RAD model for software development. What are its limitations      | 08 |
|          | <b>b)</b> | List and explain the human factors affecting the agile process.               | 06 |
|          | <b>c)</b> | Discuss the factors used in the technical assessment of a legacy application. | 06 |

#### **OR**

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|----------|-----------|--|----|
| <b>6</b> | <b>a)</b> | Describe the major advantages of inspection over testing? Explain the program inspection process.                | 08 |
|          | <b>b)</b> | Explain the cleanroom approach to software development with a neat diagram. List its merits.                     | 08 |
|          | <b>c)</b> | Illustrate the goal of test case design? State and explain various approaches that may take to test case design. | 04 |

#### **UNIT 5**

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|----------|-----------|--|----|
| <b>7</b> | <b>a)</b> | Eliciting and understanding stakeholder requirements is difficult. Give reasons.                             | 05 |
|          | <b>b)</b> | State and explain the two main strategies that can be used when decomposing a sub system into modules.       | 05 |
|          | <b>c)</b> | Explain two main event driven control models with neat diagrams. List the merits and demerits of each model. | 10 |

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