

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2019

Mark Scored:

Level : B. E./ B. Sc.
Year : IV

Course : COMP 401
Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date

FEB 18 2019

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Pick the correct answer.

1. How many categories of software are there?
[a] 2 [b] 4 [c] 5 [d] 7
2. Odd one out from the followings with respect to software application.
[a] drivers [b] editors
[c] computer graphics [d] system components
3. Odd one out from the followings with respect to software quality.
[a] correctness [b] reusability [c] usability [d] efficiency
4. In Agile development, unpredictability is considered on _____.
[a] maintenance [b] feasibility study [c] reviews [d] testing
5. How many agility principles are there?
[a] 10 [b] 12 [c] 11 [d] 13
6. Which of the followings isn't considered in self-organization?
[a] work [b] process [c] schedule [d] place
7. Which one enables a system model to be created in a timely manner?
[a] simplifications [b] constraints [c] limitations [d] assumptions
8. Which one is correct regarding a wicked problem?
[a] It is a simple problem.
[b] There is definitive problem specification.
[c] The true nature of the problem only emerges as a solution is developed.
[d] There are a few related entities.
9. Which one is targeted to senior technical staff and project manager?
[a] Requirement Specifications [b] Requirement Definition
[c] Software Specifications [d] All
10. Which one is Baile-Basili Model?
[a] $5.2 + 0.73 * (KLOC)^{1.05}$ [b] $5.5 + 0.73 * (KLOC)^{1.16}$
[c] $5.2 + 0.73 * (KLOC)^{1.16}$ [d] $5.5 + 0.73 * (KLOC)^{1.05}$

11. Which one of the followings represents project schedule?
[a] Bar Chart [b] Activity Network
[c] Both [d] None
12. Which one of the followings is primary resource for software development?
[a] S/W tools [b] H/W tools
[c] people [d] reusable S/W components
13. Selecting appropriate procedures and standards for a software project is _____.
[a] quality assurance [b] quality control
[c] quality monitoring [d] quality planning
14. In which one of the followings Pareto principle is applied?
[a] Testing [b] Design [c] Coding [d] Analysis
15. Which one of the followings is related to the attributes of a good test?
[a] MCC 76 [b] KAN 93 [c] DAV 95 [d] ISO 9000

Fill in the blanks.

16. _____ requirements are due to introduction of the computer system.
17. _____ plan describes the approach, resource and schedule used for a system.
18. Regarding estimation model, transaction processing system is an example of _____.
19. In _____, engineers explain their designs and justify their design decisions.
20. _____ provides additional information about control flow.

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SECTION "B"

[6Q × 4 = 24 marks]

Attempt *ANY SIX* questions (**Q. No. 6 is compulsory**).

1. Define software. How software engineering minimizes software failure? Briefly explain with example.
2. What do you mean by an agile process? Mention different agility principles.
3. Define computer-based system. Discuss about the impact of environment on system. Differentiate system engineering with software process.
4. Explain the structure of software requirements specification (SRS) document.
5. Discuss on the responsibilities of software project manager.
6. You are given to build software by a company. Create a Decision Tree and justify that why you prefer the particular approach to other approaches to make the software. For this, you can make your own assumptions for the required parameters.
7. What is ISO 9000 certification? Which four software quality attributes you would like to use in banking system for quality assurance and why?

SECTION "C"

[2Q × 8 = 16 marks]

Attempt *ANY TWO* questions (**Q. No. 10 is compulsory**).

8. Explain software testing techniques.
9. With an appropriate pseudo-code, prove that all different methods of Cyclomatic Complexity (CC) computation result the same value. Ensure that the value of the CC is at least 5.
10. Mention four major requirements definition of *Airport Security Management Software*. Provide requirements specification for each of them.

