BRAINWARE UNIVERSITY

Coursework Examination 2018 – 19 (June 2019)

Programme – Ph.D. (CS) / Ph.D. (CSE)

Course name - Software Project Management

Course Code - PHD-CS-01

Time allotted: 3 Hours   **Full Marks : 100**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question)   10 x 1 = 10

1. *Choose the correct alternative from the following*

(i)   What are the characteristics of software?

    a. Software is developed or engineered; it is not manufactured in the classical sense
    b. Software doesn't " wear out "

    c. Software can be custom built or custom build.
    d. All mentioned above

(ii)   What are the signs that a software project is in trouble?

    a. The product scope is poorly defined.
    b. Deadlines are unrealistic

    c. Changes are managed poorly.
    d. All mentioned above

(iii)   The main goal of quality assurance is to

    a. Set coding standards
    b. Improve software project management

    c. Reduce the technique and programmatic risk in developing software
    d. Specify correcting action

(iv)   When considering the following activities, which is the best example of a project?

    a. Processing insurance claims
    b. Producing automobiles

    c. Writing a policy manual
    d. Monitoring product quality

    e. Overseeing customer requests

(v) The performance of a specific task in CPM, is known

    a. Dummy   b. Event

    c. Activity   d. None of the above

(vi) Which model is also known as Verification and validation model?

    a. Waterfall model   b. Big Bang model

    c. V-model   d. Spiral model

    e. Work with a group of outsiders,
       including vendors and suppliers

(vii) PERT stands for

    a. Project Evaluation and Review Technique   b. People Evaluation and Review Technique

    c. Project Estimation and Review Technique   d. Product Evaluation and Review Technique

(viii) Project performance consists of

    a. Time   b. Cost

    c. Quality   d. All of the above

(ix) A ____ is a set of activities which are networked in an order and aimed towards achieving the goals of a project.

    a. Project   b. Process

    c. Project management   d. Project cycle

    e. Manpower

(x) The project life cycle consists of

    a. Understanding the scope of the project   b. Objectives of the project

    c. Formulation and planning various activities   d. All of the above

Group – B

(Short Answer Type Questions)   6 x 5 = 30

Answer any *Six* from the following

2. What is project management? Why it is important?   5

3. List any four project management skills required for software project management.   5

4. Write down the time-cost trade-off algorithm   5

5. Describe resource levelling and resource smoothing in Project management   5

6. What are the signs that a software project is in jeopardy?   5

7. Explain the term capital cost and operating cost   5

8. State possible risks associated with Project management.   5

9. Distinction between PERT and CPM.   5

Group – C

(Long Answer Type Questions)   6 x 10 = 60

Answer any *six* from the following

10. Construct a network for a project whose activities and their predecessor   10
    relationship are given in the following table

Activity	A	B	C	D	E	F	G	H	I	J	K
Predecessor	-	-	-	A	B	B	C	D	E	H,I	F,G

11. Crashing cost of a Project and Project cost estimation technique   10

12. Define Project Planning, Hazards, and risk planning & controlling   10

13. 4 P's in Software Project Management? Explain how project can be evaluated   10
    against strategic, technical and economic criteria.

14. An activity diagram is given below, compute earliest expected time (TE) , latest   10
    allowable time (TL) and total float for each activity and find the critical path
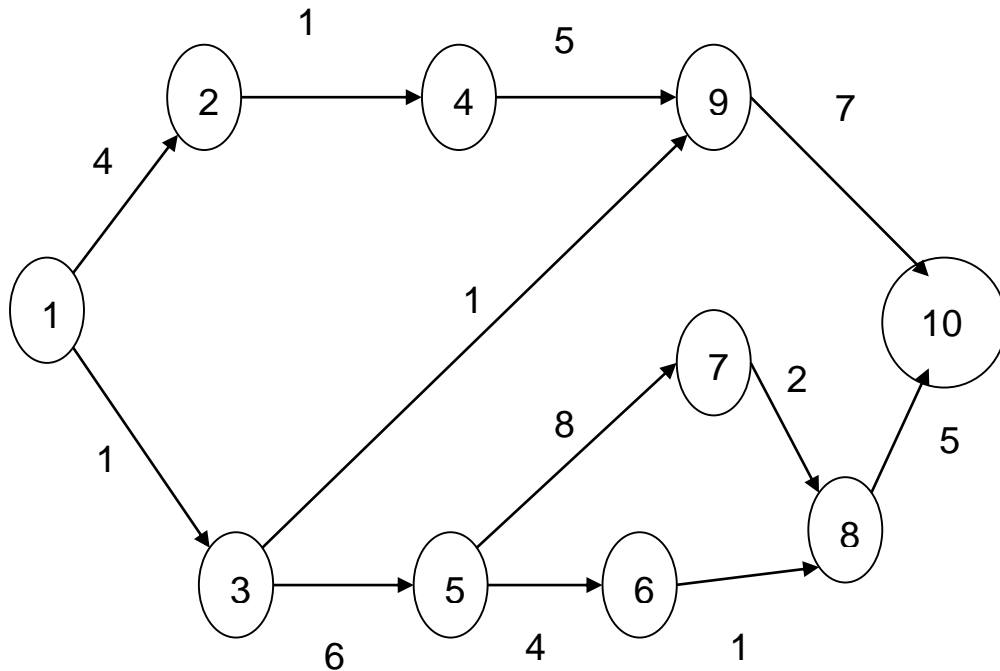
15.   The following tables are given   10

Activity	Activity Name	T_0	T_m (in days)	t_p
1-2	A	4	6	8
1-3	B	2	3	10
1-4	C	6	8	16
2-4	D	1	2	3
3-4	E	6	7	8
3-5	F	6	7	14
4-6	G	3	5	7
4-7	H	4	11	12
5-7	I	2	4	6
6-7	J	2	9	10

   a) Draw the project network.
   b) Find the critical path
   c) Find the probability that the project is completed in 19 days

16.   Explain two major components of PERT/CPM. What do you mean by dummy   10
        activity- explain with a suitable example. Explain total float, free float and
        independent float

17.   Draw the Pert network diagram of the project. Calculate the expected time,   10
        variance and draw the pert chart of the set of activities

Activity	t_0	tm	Tp
(1, 2)	6	10	19
(1, 3)	5	9	18
(2, 4)	4	8	22
(2, 5)	4	9	10
(3, 4)	4	8	16
(3, 5)	2	6	8
(4, 5)	4	12	24