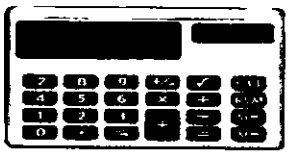
UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS

UNISA university of south africa

INF3708

October/November 2015

SOFTWARE PROJECT MANAGEMENT

Duration 2 Hours

80 Marks

EXAMINATION PANEL AS APPOINTED BY THE DEPARTMENT

Use of a non-programmable pocket calculator is permissible

Closed book examination

INSTRUCTIONS

- This paper consists of 5 pages
- Use of a non-programmable pocket calculator is permissible
- Show all calculations
- Round off all your calculations to two decimal places
- Answer ALL the questions

GOOD
LUCK!!

QUESTION 1 [5]

Select the most appropriate answer Write down only the appropriate letter representing your choice next to the corresponding question number in your answer book (**1 mark each**)

1 1	Choose the most appropriate set of similarities between General Project Management and Software Project Management in terms of the fundamental concepts A Scope, time and deadlines, cost/budget, human resources, quality control, communication, setting and meeting objectives, requires a feasibility study and planning B Scope, CASE tools, cost/budget, human resources, quality control, communication with developers, setting and meeting objectives, requires a feasibility study and planning C Selection of a good software development team D Use of the ISO 12207 software development life cycle E The relative invisibility of many of the products
1 2	Using the waterfall model in a large systems development project has the advantage that there is limited reworking of completed tasks A True B False
1 3	The top-down approach is normally associated with parametric models and parametric models will always have one formula in this form *effort = (system size)X (productivity rate)* A True B False
1 4	You have just completed the processes of identifying the major risks and allocating priorities for each in a software project, your next task is to decide how to deal with these risks and their allocated priorities, your available choices would be A Risk assurance, risk avoidance, risk reduction and mitigation, and risk transfer B Risk acceptance, risk avoidance, risk investment, and risk transfer C Hiring an actuarial scientist for the project

	D Risk assurance, risk investment, and purchasing sensitivity analysis software E Risk acceptance, risk avoidance, risk reduction and mitigation, and risk transfer
1 5	One of the ways to bring forward the project completion date is to shorten the critical path, but it is worth noting that shortening the critical path often causes some other path or paths to become critical A True B. False

QUESTION 2 [15]

Earned value analysis has gained popularity as a technique for controlling project costs Earned value analysis assigns a value to each task or work package (as identified in the WBS) based on the original expenditure forecasts

Amanda's baseline budget shown in Table 1 is based on the schedule shown in Figure 1

a Draw a graph showing the earned value (BCWP) at week 12 and the Baseline budget (BCWS) **(5 marks)**

b Draw a graph showing the earned value tracking chart Your chart should also show these statistics budget variance, schedule variance, and cost variance **(10 marks)**

Table 1: Amanda's baseline budget calculation

Task	Budgeted workdays *r*	Scheduled completion	Cumulative workdays *w*	% cumulative earned value
Specify overall system	34	34	34	14 35
Specify module B	15	49 ı	[64	27 00
Specify module D	15	49 '		
Specify module A	20	54	84	35 44
Check specifications	2	56	86	36 28
Design module D	4	60	90	37 97
Design module A	7	63	97	40 93
Design module B	6	66	103	43 46
Check module C spec	1	70	104	43 88
Specify module C	25	74	129	54 43
Design module C	4	79	133	56 12
Code & test module D	25	85	158	66 67
Code & test	30	93	188	79 32

module A				
Code & test module B	28	94 ı	[231	97 47
Code & test module C	15	94 1		
System integration	6	100	237	100 00

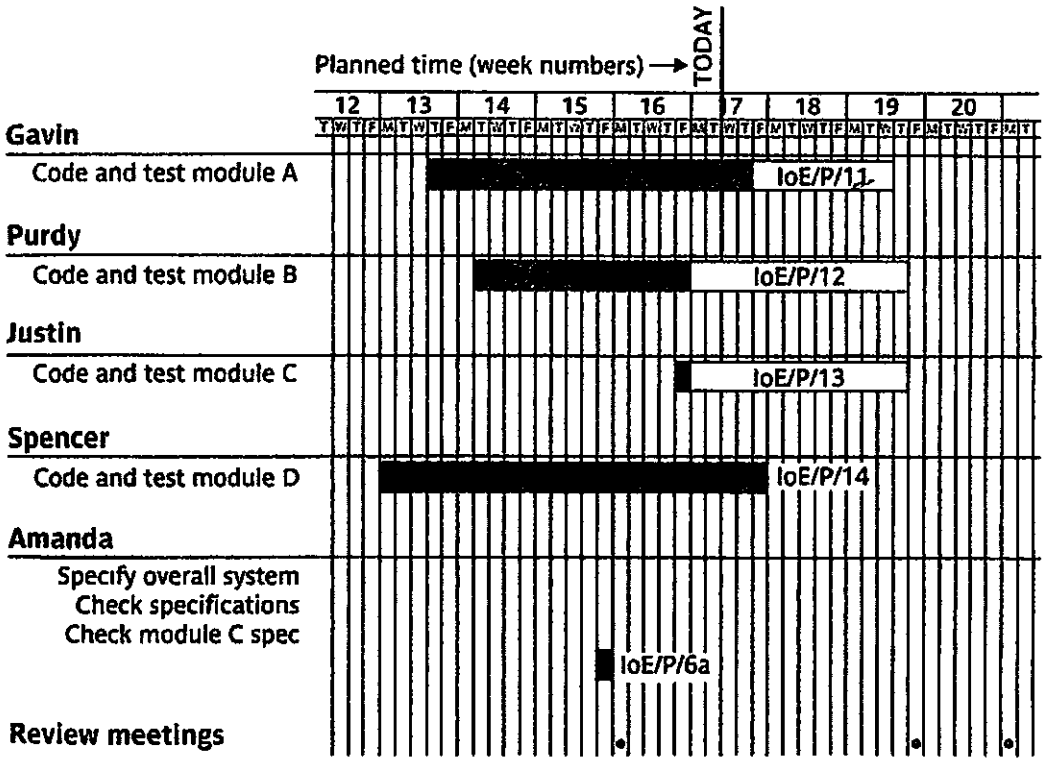


Figure 1: Amanda's work schedule (note that each week is made up of 5 days (M,T,W,T,F))

QUESTION 3 [20]

A resource in a project is any item or person required for the execution of the project

a Describe any 5 of the 7 categories of resources in a project **(3 marks each)**

b Give a suitable example for each resource category described in (a) **(1 mark each)**

QUESTION 4 [20]

In the PERT network diagram illustrated in the figure 4 below, the targeted date for the completion of the project is nine (9) weeks

a Use table 2 below to calculate the expected (t_e) values and standard deviation (s) **(10 marks)**

b. Indicate the t_e and s values on Figure 4 below **(10 marks)**

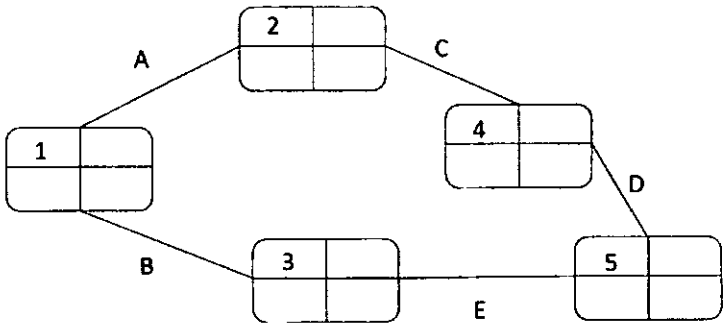


Figure 2 PERT Network

Table 2 Values for the PERT Network

	Optimistic (a)	Most likely (m)	Pessimistic (b)	Expected (t_e)	Standard deviation (s)
A	1	2	3		
B	3	4	5		
C	2	3	4		
D	1	2	3		
E	3	4	5		

QUESTION 5 [20]

As a project planner you have picked out and examined what appear to be the most threatening risks to the project You now need to record your findings in a risk register Draw the diagram of a typical risk register showing the usual contents of such a register