





UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

BACHELOR OF SCIENCE IN INFORMATION SYSTEMS BACHELOR OF SCIENCE HONOURS IN INFORMATION SYSTEMS

Second Year Examination - Semester II - 2019

IS2108 – IT Project Management TWO (2) HOURS

To be completed by the candidate	٦
Examination Index No:	

Important Instructions to candidates:

- 1. The medium of instruction and questions is **English**.
- 2. All questions must be answered in English.
- 3. If a page or a part of this question paper is not printed, please inform the supervisor immediately.
- 4. Note that questions appear on both sides of the paper. If a page is not printed, please inform the supervisor immediately.
- 5. Write your index number on each and every page of the answer paper.
- 6. This paper has **04** questions on **14** pages.
- 7. Answer **ALL** questions. All questions carry equal marks (25 marks).
- 8. Any electronic device capable of storing and retrieving text including electronic dictionaries and mobile phones are **not allowed**.
- 9. Non-Programmable calculators are allowed.

For Examiner's use only		
Question No	Marks	
1		
2		
3		
4		
Total		

a) List down two (02) characteristics of a project. 1.	
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	despitation of thereton regiments
2.	
b) Use two (02) examples and briefly describe how software projects	ects differ
projects.	
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a) Cive and (01) assemble and a 11 to 0 to 0 to 0 to 0	
c) Give one (01) example each and briefly describe the following IT pro	oject life cy
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d) Following table shows the predicted revenues of two projects (Project X and Y) that ABC Pvt Ltd has shortlisted to invest. Initial investment for each project is Rs. 50,000.00.

Year	Project X (Rs.)	Project Y (Rs.)
1	10,000.00	10,000.00
2	40,000.00	50,000.00
3	10,000.00	30,000.00
4	50,000.00	20,000.00

Discount rates of project X and Y are 15% and 20% respectively.

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	total NPV value of project X y state the NPV value for ear		ears. You
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	iii. Calculate the years.	Return on Inves	tment (ROI) of pro	ojects X and Y at the	e end of
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	iv. What is the mo	ost suitable projects.	ect to invest? Expl	ain based on NPV a	nd ROI
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Activity A B C D E	Duration (Weeks) 2 3 4 4 2	Precedent Activity A A, B C, D
Activity A B C D	Duration (Weeks) 2 3 4	Precedent Activity A A, B

b) As a project manager you have identified following possible risks in your project:

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iii. Draw the activity on node diagram using the standard 9-partition nod Note: You should complete both forward and backward passes of the	e convention.
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- d) Assume that the size of this **organic** type project has been estimated to be 45,000 lines of source code. Assume that the average salary of a software engineer to be Rs. 25,000/- per month.
 - i. Using the COCOMO model, determine the effort required to develop this software product.

Hint: COCOMO model equations:

Effort	Development time
2.4 x size ^{1.05}	2.5(Effort) ^{0.38}
3.0 x size ^{1.12}	2.5(Effort) 0.35
3.6 x size ^{1.20}	2.5(Effort) ^{0.32}

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ii. Calculate the nominal deve	lopment time in months. [3 Marks]
ii. Calculate the nominal deve	lopment time in months. [3 Marks]
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iii.	Calculate th	ne cost require	ed develop t	the product.			
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iv.	Write down	4 characterist	tics of an or	ganic type	software pro	ject.	
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Question 04

Consider the table 1 and table 2 below that represent the activity schedule and the human resource requirements details of a project respectively.

Table: Activity schedule (duration in days)

Activity	Precedence	Duration (days)	Required HR types
A	evan	2	managers and business analysts only
В	A	1	business analysts only
C	A	2	software architects only
D	В	2	programmers only
E	C and D	2	managers and technical writers only

Table 2: Human resource requirements per day

HR Type	Dates						
TIK Type	l st	2nd	3rd	4th	5th	6th	7th
Managers	3	3	0	0	0	2	0
Business Analysts	1	1	3	0	0	0	0
Software Architects	0	0	5	3	0	0	0
Programmers	0	0	0	1	2	0	0
Technical Writers	0	0	0	0	0	2	1

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 a) Draw the Gantt chart a an activity by activity by 	and clearly basis. E.g.,	write on it the Day 1: Activ	ne human reso vity A- 4 peopl	ource requireme le	nts per day on
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c) Assume that this company can accommodate company can enforce this requirement by usin	only 7 workers on a day. Explain how the g the resource leveling technique.
	[4 Marks]
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d) Explain the difference between resource leveling	ng and resource smoothing. [3 Marks]
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