Student ID: _____

Number of additional sheets: _____

IT Project Management (COMP600) / IT Project Practice (COMP720)

Final Exam

Semester 1, 2018

TIME ALLOWED: 2 Hours (Includes 5 Minutes Reading Time)

TOTAL MARKS: 100

Question	1	2	3	4	5	Total
Marks	40	9	20	16	15	100
Score						

INSTRUCTIONS:

1. A total number of pages in this paper (excluding this cover page): 12.

2. A total number of questions in the paper: 5.

3. Answer all the questions in this paper as they are all compulsory questions.

4. This is a closed book examination.

5. Write your answers on this examination script. If you need more space use the reverse of the sheet and number the question. If you need extra paper, ask for sheets from the examiner. Do not use your own paper.

6. All sheets, including scrap paper and extra sheets, must be handed in at the end of the examination.

7. Strike out with a line any page or question that you do not want to be marked.

8. Blank sheets are provided at the end of this script for notes. Anything written on these sheets will not be marked.

9. All answers except diagrams and sketches must be in ink.

10. Correcting fluid is not permitted.

11. Handheld devices other than non-programmable calculators are not allowed.

1. This question relates to Project Management Concepts and Project Integration Management. ***Total 40 marks***

   a. List and briefly explain the triple constraints that are applicable to IT Projects. (6 marks)

   b. List the five project management process groups with specific project management tasks for each applicable to any IT Project? (5 marks)

      1. _____
      2. _____
      3. _____
      4. _____
      5. _____

   c. From the project management perspective, briefly explain why phases (stages) are required to undertake any IT project. (3 marks)

d. Explain the purpose of a team contract in any IT Project.
(3 marks)

e. Complete the financial analysis for the project shown in the table below. Assume the project will be completed in the year of investment (Year 0). Show all the working for part i – iv. .

Discount rate	**5%**				
Project is completed in Year 0	**Year**				
	0	**1**	**2**	**3**	**Total**
Costs	***$100,000***	***$20,000***	***$20,000***	***$20,000***	
Discount factor					
Discounted costs					
Benefits	***0***	***$150,000***	***$170,000***	***$200,000***	
Discount factor					
Discounted benefits					
Discounted benefits - costs					
Cumulative benefits - costs					

i. Calculate the discount factor for year 1 to year 3 based on 5% discount rate. (6 marks)

ii. Fill in the table (page 2) with ***discount factor for each year (part i)*** and by calculating the ***discounted benefits***, ***discounted costs***, ***discounted benefits – discounted costs***, ***cumulative discounted benefits – discounted costs***, ***total discounted benefits***, and ***total discounted costs***. (10 marks)

iii. What is the payback period of this proposed project? (2 marks)

iv. Calculate the ROI (Return on Investment) of this proposed project. (2 marks)

v. Justify if this proposed project is worth undertaking. (3 marks)

2. This question relates to Project Scope Management. ***Total 9 marks***

   a. Explain how the scope statement document and WBS (Work Breakdown Structure) help to deliver IT projects successfully.
   (4 marks)

   _____

   _____

   _____

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   b. Describe the relationship between the WBS and Budget Management in IT projects. (3 marks)

   _____

   _____

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   _____

   _____

   c. Provide a justification for a practice in relation to scope management that will help to minimise scope creep on project deliverables. (2 marks)

   _____

   _____

   _____

   _____

   _____

3. This question relates to Project Schedule Management. ***Total 20 marks***

Task	Initial node	Final node	Estimated duration (days)
A	1	2	10
B	1	3	12
C	1	4	14
D	2	5	9
E	3	5	15
F	4	8	20
G	5	6	12
H	5	7	8
I	5	8	7
J	6	9	6
k	7	9	8
L	8	9	6
M	9	10	10

a. In the space below, draw an AOA (activity-on-arrow) network diagram using the project data provided in the above Table. (6 marks)

b. In the table below, write down the predecessor activities (could be one or many) for each task listed in the table above. (3 marks)

Task	Predecessor(s)
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
k	
L	
M	

c. Based on your answer for part a, identify all the paths on the network diagram for this project and state the estimated duration for each path. (3 marks)

_____

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d. What is the critical path for this project and what is its estimated duration? (2 marks)

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_____

e. What is the estimated duration of the entire project? (2 marks)

f. Explain how the critical path analysis will help the project manager and his team to control and monitor tasks of this project. (4 marks)

Total 16 marks

4. This question relates to Project Cost Management.

An IT project is scheduled to take six months to deliver. Assume that one month of work has been done. The estimated BAC is $500,000 for this six-month project. Given the following information, answer part **a** to part **h**. PV is the planned value, EV is the earned value, AC is the actual cost, and BAC is the budget at completion.

PV = $110,000
EV = $100,000
AC = $120,000

a. Calculate the cost variance (CV) for one month. (2 marks)

b. Calculate the schedule variance (SV) for one month. (2 marks)

c. Calculate the cost performance index (CPI) for one month. (2 marks)

d. Calculate the schedule performance index (SPI) for one month. (2 marks)

e. Calculate the cost estimate at completion (EAC) for this project. (2 marks)

f. Calculate the new time estimate required to complete this project. (2 marks)

g. Is the project under budget or over budget? Explain why. (2 marks)

_____
_____
_____
_____
_____
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h. Is the project ahead of schedule or behind schedule? Explain why. (2 marks)

_____
_____
_____
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_____
_____

5. This question relates to Risk Management. ***Total 15 marks***

a. For each project calculate the EMV (Expected monetary Value) and contingency reserve based on given risks. (5 marks)

Project		Chance of Outcome	Estimated Impact	Expected monetary value (EMV)	Contingency reserve
Project 1	Risk 1	30%	$120,000		
	Risk 2	70%	-$20,000		
Project 2	Risk 1	25%	$120,000		
	Risk 2	25%	$110,000		
	Risk 3	50%	-$30,000		

b. Briefly explain the contingency reserve for project 1 and project 2. (4 marks)

c. Four main response strategies to deal with negative risks are avoidance, acceptance, transference, and mitigation. Briefly explain each strategy.
(6 marks or 1.5 marks each)

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