UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2016 – 2nd Year Examination – Semester 4

IT4205: IT Project Management

Part 2 - Structured Question Paper

01st October, 2016

(ONE HOUR)

To be completed by the candidate

BIT Examination Index No: .....

Important Instructions:

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- This paper has **02 questions** on **05 pages**.
- **Answer all questions.** All questions **do not** carry similar marks.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the Examination Hall by a candidate.
- Note that questions appear on both sides of the paper.
  If a page is not printed, please inform the supervisor immediately.
- **Non-programmable calculators allowed.**

Questions Answered

Indicate by a cross (×), (e.g. [X]) the numbers of the questions answered.

To be completed by the candidate by marking a cross (×).	1	2	
To be completed by the examiners:			

Index No …….

1) (a) Draw the rough sketch of the curve **potential payoff against utility** for the following **risk preferences**.

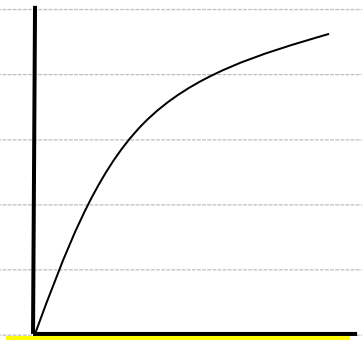
I. Risk Averse
II. Risk Neutral
III. Risk Seeking

[2 x 3 = 06 marks]

ANSWER IN THIS BOX

I

Utility



Potential Payoff

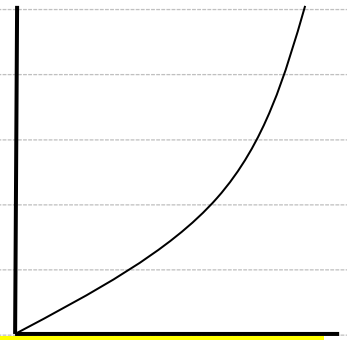
II

Utility

Potential Payoff

III

Utility



Potential Payoff

(b) Consider the scenario given below about the ABC Company.

ABC Company is an IT services company which excels in pioneering IT solutions to governments globally for the past 20 years. Recently it has shown interest in bidding for the one or all of the three projects advertised by the Ministry of Finance in Sri Lanka. The details of the projects and the chances for the ABC Company with respect to the three projects are given in the table below.

	Bid Awarded		***Partially Awarded***		***Bid Rejected***	
	Chance	**Gain($)**	**Chance**	**Gain/Loss($)**	**Chance**	**Loss($)**
Project A	20%	300,000.00	-	-	80%	40,000.00
Project B	70%	60,000.00	10%	20,000.00 (Loss)	20%	50,000.00
Project C	50%	200,000.00	20%	10,000.00 (Gain)	30%	50,000.00

(i) What type of risk analysis is most suitable for the above scenario?

[02 marks]

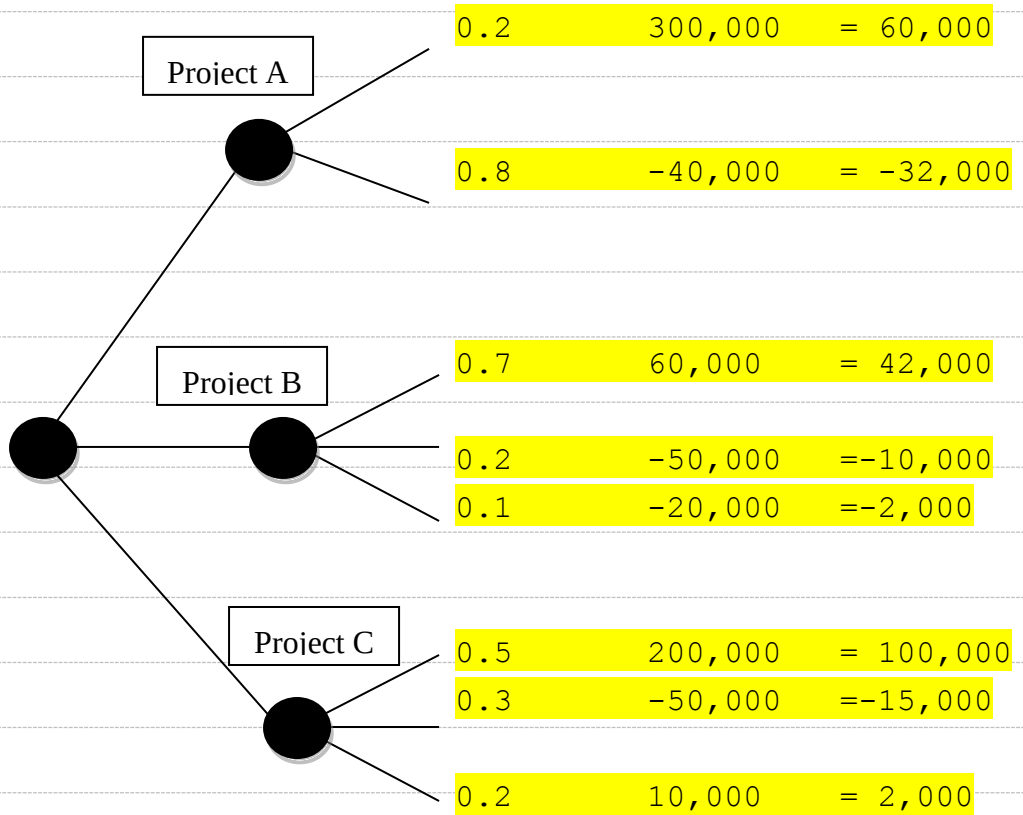
ANSWER IN THIS BOX

Quantitative Risk Analysis

(ii) Draw a **decision tree** to represent the above scenario and compute the **expected monetary value (EMV)** for each project.

[15 marks]

ANSWER IN THIS BOX



EMV of Project A = 60,000-32,000 = 28,000

EMV of Project B = 42,000-10,000-2,000=30,000

EMV of Project C = 100,000-15,000+2,000=87,000

(iii) If the ABC Company can only invest in a single project, what is the most suitable project to invest for the given scenarios if:

I. ABC Company is a risk seeker?

II. ABC Company is a risk averse?

[1 x 2 = 02 marks]

ANSWER IN THIS BOX

I. **Project A**

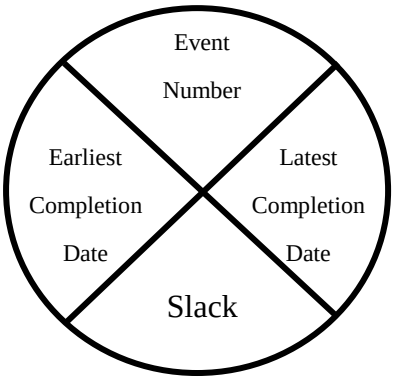
II. **Project B or C (one of the two)**

2) Consider the following scenario.

ABC Company was awarded the Project A by the Ministry of Finance in Sri Lanka. During the primary stages it was identified that the project consists of eight tasks that are represented from **A** to **H**. Furthermore, during time estimation it was revealed that the completion time for tasks **B, E**, **G** and **H** was **four (4)** weeks. Similarly, task **D** was estimated to take **six (6)** weeks whilst tasks **A**, **C** and **F** were estimated to take **five (5), two (2)** and **twelve (12)** weeks respectively. Additionally, it was identified that tasks **A** and **C** at worst case could start with an initial delay of **two (2)** weeks whilst task **F** could start with an initial delay of **four (4)** weeks. Apart from the time estimations of the tasks, following task dependencies were identified.

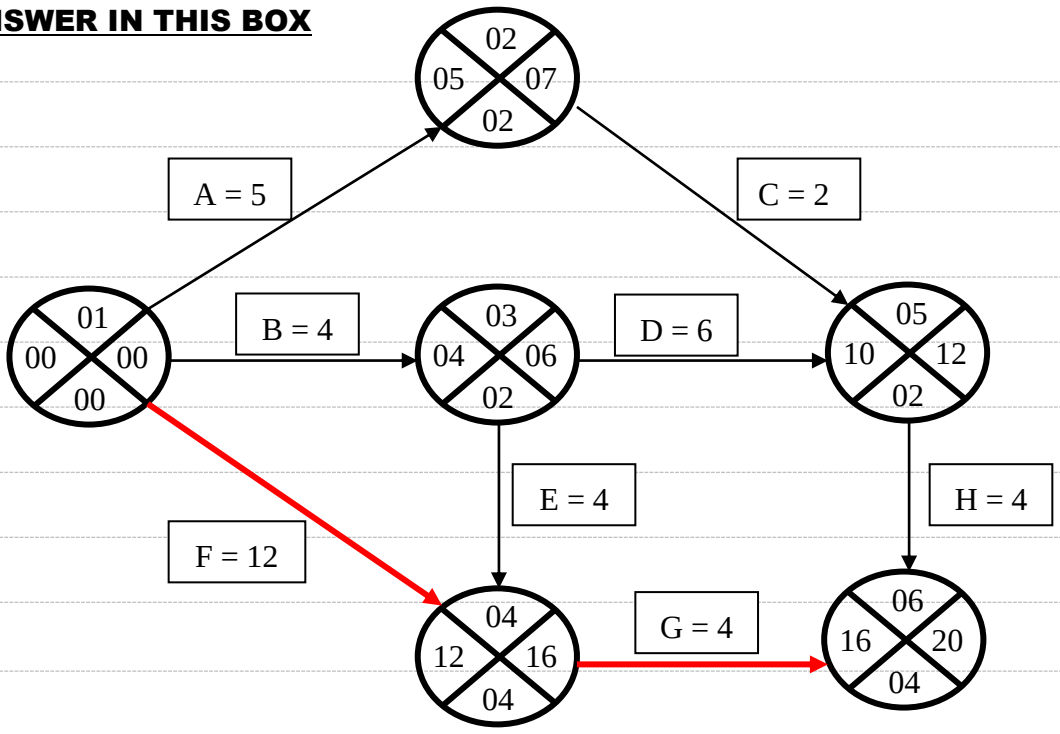
- Task A needs to complete before task C could begin.
- Task B needs to complete before tasks D and E could begin.
- Tasks E and F needs to be complete before task G could begin.
- Tasks C and D needs to be complete before task H could begin

(a) Draw **"Critical Path Method (CPM)" network** for the above scenario and clearly demarcate the critical path on it. **Important:** use the following node format for your diagram. If other formats are used to answer this question it will not be considered as correct.



[10 marks]

ANSWER IN THIS BOX



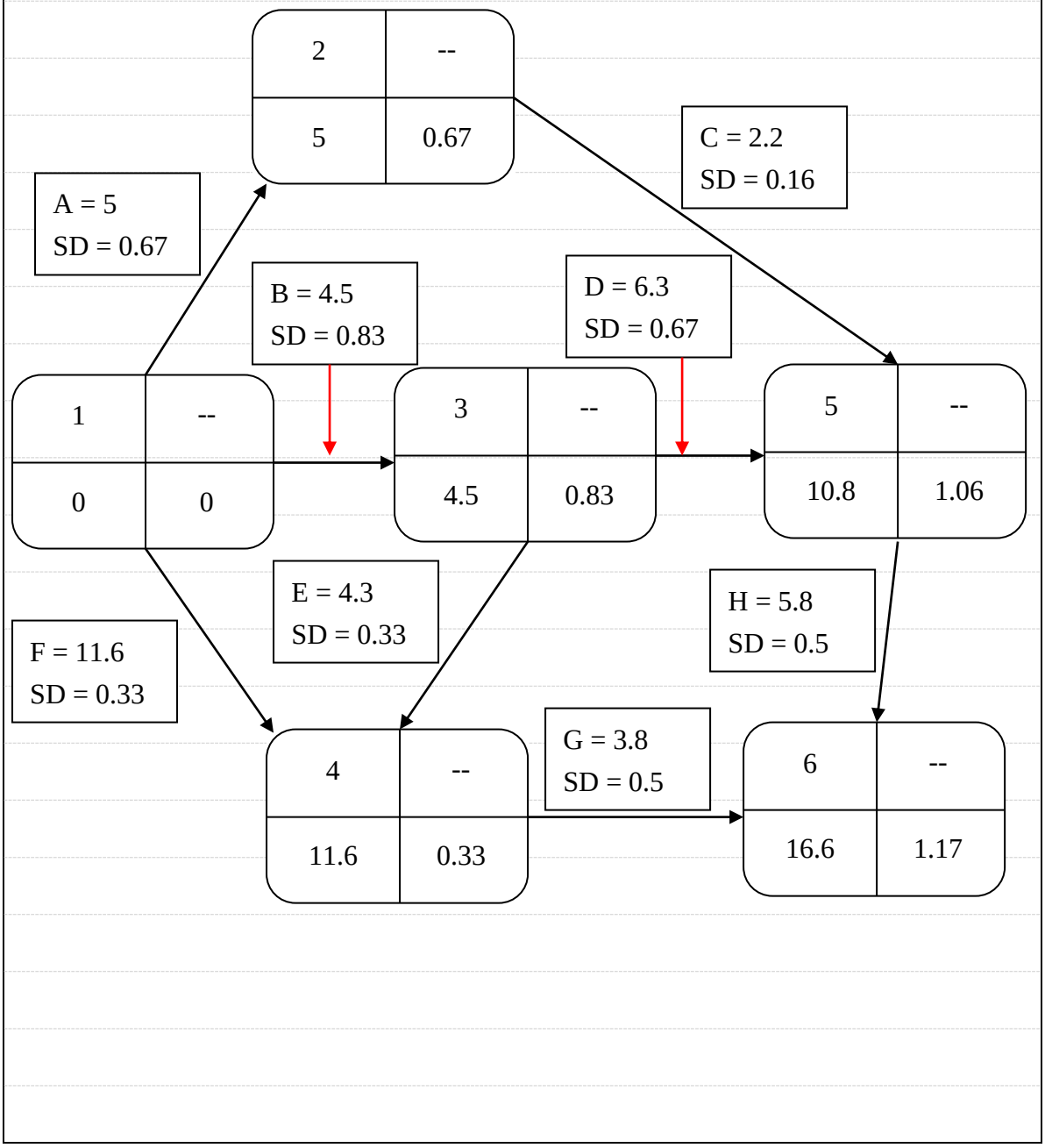
(b) During further analysis by the ABC Company, it was further revealed that the figures given about the estimated completion times are the most likely estimates. The optimistic and pessimistic for each task were subsequently computed and are given below. The tuples are formed as (<activity> , <optimistic> , <pessimistic>) in that order.

(A, 3, 7), (B, 3, 8), (C, 2, 3), (D, 5, 9), (E, 4, 6), (F, 10, 12), (G, 2, 5), (H, 4, 7)

Draw a **"Program Evaluation Review Technique (PERT)" diagram** for the activities in the project. The diagram should include the computed standard deviation for each activity.

[15 marks]

ANSWER IN THIS BOX



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