Assignment 01: Due date 28 August 2015 Compulsory

Unique nr: 594284
Marks weight: 10%

ASSIGNMENT 01 - SEMESTER 2

ASSIGNMENT 01 - COMPULSORY	
Due date	28 August 2015
Study material	Hughes & Cotterell: Chapters 1 – 4 in most cases, but spread further to other chapter e.g., 7, etc
Total marks	14 marks = 100%
Note that this is a <u>COMPULSORY assignment!</u> If you do not complete this assignment and submit it by the due date, you will NOT gain examination admission! **If your assignment is late, please DO NOT PHONE OR E-MAIL asking for an extension but include a note in your assignment stating the reason for the late submission and we will decide whether or not it will be marked**.	

Instructions:

1. Complete this assignment by **writing the correct option next to the question number (e.g., Q1. 3,)** and submit online in a .pdf format via the myUnisa online assignment submission. **Do not complete this assignment as an MCQ (NO Mark Reader Sheet is needed)**, just type the correct option next to the question number in Word Document, then convert the .doc to .pdf and submit the converted .pdf via myUnisa online assignments submission.

2. The following unique number has to be assigned to the assignment:

UNIQUE NUMBER:
594284

3. Each question has only ONE correct answer.

4. This assignment consists of 14 compulsory questions.

Marks are awarded according to the number of correct answers provided by the student.

Q1. _____ is the process of planning, leading, and controlling the efforts of organizational
members and the use of other organizational resources in order to achieve stated organizational goals, simply implies a process of structured activities.

1. Planning
2. Project
3. Scope
4. Management
5. Software

Q2.

_____ is the composition of Software Project Management scope where normally an outline plan is formulated for the entire project and detailed plans for each phase of the project as they are encountered. This may include, but are certainly not limited to, work- and product breakdown structures (for the entire project as well as per phase), quality standards, risk management and change control procedures, resource allocation, time management and costing calculations.

1. Project Feasibility.
2. Project Initiation.
3. Project Planning.
4. Project Execution.
5. Project Control.

Q3.

The following statement best describe which aspect that is unique to a software project management as compared to general project management?

"*The ease with which software can be changed is seen as one of its strengths. Due to the fact that software is generally expected to conform to existing systems in an organization and not vice versa, software systems are likely to be subject to a high degree of change*."

1. Invisibility.
2. Complexity.
3. Conformity.
4. Flexibility. Pg. 5
5. None of the above.

Q4.

Software Project Management is less important in the era of modern software development since most projects are successful and completed on time:

1. True.
2. False. Pg. 2

Q5.

The classical life cycle model of software development is:

1. A reasonable approach when requirements are well defined. Pg. 83
2. A good approach when a working program is required quickly.
3. The best approach to use for projects with large development teams.
4. An old fashioned model that is rarely used any more.
5. None of the above.

Q6. The linear sequential model of software development is also known as the:

1. Classical life cycle model. Pg. 82
2. Fountain model.
3. Spiral model.
4. Chaos model.
5. None of the above.

Q7. Evolutionary software process models:

1. Are iterative in nature.
2. Can easily accommodate product requirements changes.
3. Do not generally produce throw away systems.
4. All of the above. Pg. 85
5. None of the above.

Q8. The rapid application development model is:

1. Another name for component-based development.
2. A useful approach when a customer cannot define requirements clearly.
3. A high speed adaptation of the linear sequential model. Pg. 82
4. All of the above.
5. None of the above.

Q9. The spiral model of software development:

1. Ends with the delivery of the software product.
2. Is more chaotic than the incremental model.
3. Includes project risks evaluation during each iteration.
4. All of the above. Pg. 84
5. None of the above.

Q10.

The basis of successful project management is:

1. Identifying the project stake holder's objectives.
2. Ensuring that these objectives are met.
3. Accurate information.
4. All of the above.
5. None of the above.

Q11. Stake holders are people who have an interest or stake in a project. Which of the following is true of stake holders?

1. They should be identified as soon as possible.
2. Adequate communication channels should be set up between them as soon as possible.
3. All stake holders should have the same objectives.
4. 1, 2 & 3.
5. 1 & 2. Pg. 11

Q12.

Strategic decisions regarding projects are:

1. To identify projects to be carried out.
2. To establish hardware and software standards.
3. To document the stages in the software life cycle.
4. All of the above.
5. 1 & 2. Pg. 55

Q13.

Which of the following is (are) true regarding project products?

1. Each project product has an activity(ies) that creates it.
2. All the deliverables are handed over to the client at the end of the project.
3. All the deliverables are used to create intermediate products.
4. All of the above.
5. 1 & 2. Pg.60

Q14.

A payroll system is:

1. An information system that is application specific.
2. A process control system which contains embedded software.
3. An information system that will make use of computer graphics.
4. A project management software package.
5. None of the above.

Assignment 02: Due date 04 September 2015 Compulsory

Unique nr: 594295
Marks weight: 20%

ASSIGNMENT 02 - SEMESTER 2

ASSIGNMENT 02	
Due date	04 September 2015
Study material	Hughes & Cotterell: Chapters 2
Total marks	32 marks = 100%
If your assignment is late, please DO NOT PHONE OR E-MAIL asking for an extension but include a note in your assignment stating the reason for the late submission and we will decide whether or not it will be marked.	

Instructions:

1. Complete this assignment and submit online in a .pdf format by performing the calculations.

2. The following unique number has to be assigned to the assignment:

UNIQUE NUMBER:
594295

3. Show all your working (calculations).

4. This assignment consists of 5 questions.

QUESTIONS FOR ASSIGNMENT 02:

The cash flows of Projects 1 and 2 are given in the table below (in ZAR, South African rand, R):

Year	Project 1	Project 2
0	-R155000	-R140000
1	-R5000	R15000
2	R40000	R5000
3	R50000	R20000
4	R50000	R30000
5	R50000	R60000
6	R30000	R70000

Table of cash flows for Project 1 and 2

Use this information to calculate the **Net Profit**, the **Return on Investment** (ROI), the **payback period** and the **Net Present Value** at 10% for **<u>each</u>** of these projects. Then answer Questions 1 – 5.

1. Calculate the Net Profit for each project. (6 marks)

2. Calculate the Return on Investment for each project. (6 marks)

3. Calculate the Payback Period for each project. (6 marks)

4. Calculate the Net Present Value for each project. (12 marks)

Note: the *Table of NPV Discount Factors* is available in the prescribed text book.

5. Based on your calculation of the individual Return on Investment (ROI) of each project in question 2 above, which project would you select to develop? (2 marks)

Assignment 03: Due date 11 September 2015

Unique nr: 594307
Marks weight: 40%

ASSIGNMENT 03 – SEMESTER 2

ASSIGNMENT 03	
Due date	11 September 2015
Study material	Hughes & Cotterell: Chapters 5, & 6
Total marks	55 marks = 100%
If your assignment is late, please DO NOT PHONE OR E-MAIL asking for an extension but include a note in your assignment stating the reason for the late submission and we will decide whether or not it will be marked.	

Complete this assignment and submit online via myUnisa as a .pdf document.

QUESTION 1: Questions on Chapter 5 (20 marks)

1.1 Provide the equation and identify the variables in Boehm's equation for calculating effort in the use of the COCOMO model. (4)

1.2 Five systems with the following estimated lines of code were identified. Identify which can be completed in less than three years. (16)

System	**Lines of code**	**System type**
A	10568	Semi-detached mode
B	12572	Semi-detached mode
C	16342	Organic mode
D	8553	Embedded mode
E	7314	Embedded mode

Table for Question 1: System details

QUESTION 2: Questions on Chapter 5 (12 marks)

The total function point (FP) count of a subsystem to be written consists of 30 unadjusted function points (UFP), calculated according to the IFPUG method developed by Allan Albrecht. The Project Manager (PM) discovered that one FP count did not include a reference to the Personnel file.

This file consists of the following 3 record types:

- general information;
- employment history; and
- performance information.

Twenty data types are to be referenced by the program.

2.1 If the file is an internal logical file (ILF), how many FPs must the PM add to the current FP count to make provision for the Personnel file? Explain all the steps in detail. (8)

2.2 What would the difference in FP be, if the file was an external interface file (EIF)? (4)

Question 3: Questions on Chapter 6 (23 marks)

4.1 There are a number of different conventions that have been adopted for entering information on network and activity planning diagrams, such as activity-on-arrow networks and the Precedence or activity-on-node network diagrams. Give the naming convention of events for activity-on-arrow networks **as well as** for the nodes in Precedence (or activity-on-node network) diagram as used in Hughes & Cotterel. (8)

4.2 Consider the following activities with their precedents and durations.

Activity	**Precedents**	**Estimated duration (days)**
A	None	34
B	A	20
C	A	15
D	C	25
E	B	12
F	D, E	7
G	D, E	6
H	F	30
I	G	28
J	I, H	6

Draw a complete **Activity-on-arrow** network diagram. Include the event number, earliest date, latest date and slack on each node by completing both a forward and backward pass. Clearly indicate the total duration and critical path. (15)

Assignment 04: Due date 18 September 2015

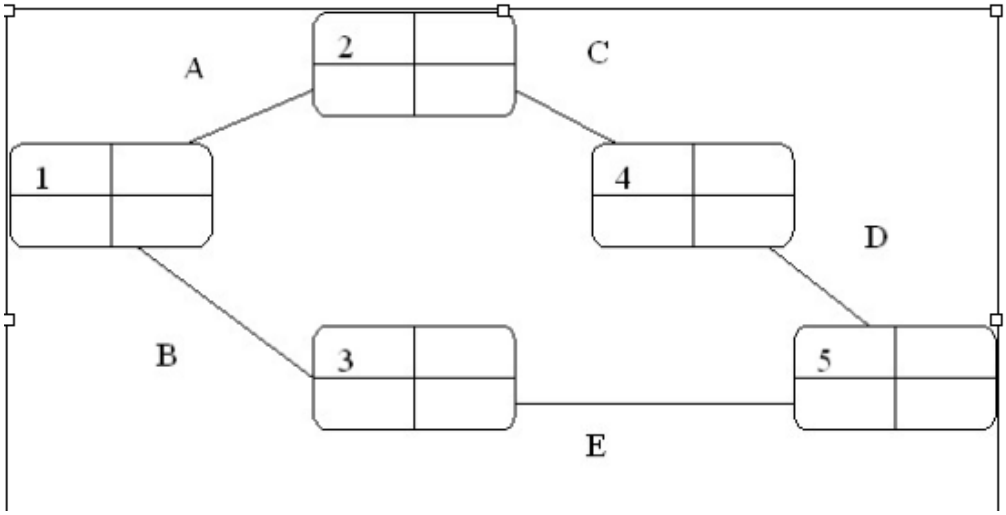
Unique nr: 594324
Marks weight: 30%

ASSIGNMENT 04 – SEMESTER 2

ASSIGNMENT 04	
Due date	18 September 2015
Study material	Hughes & Cotterell: Chapters 7 & 9
Total marks	35 marks = 100%
If your assignment is late, please DO NOT PHONE OR E-MAIL asking for an extension but include a note in your assignment stating the reason for the late submission and we will decide whether or not it will be marked.	

Question 1: Questions on Chapter 7 (18 marks)

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



	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		

Table: *Values for the PERT network*

Use the table above to calculate the following:

1.1 Calculate the expected (te) values and standard deviation (s) (10)
1.2 Indicate the t_e and s values on the diagram. (8)

Question 2: Questions on Chapter 7 and Chapter 9 (17 marks)

2.1 Discuss the nature of resources. (12)
2.2 Give the definitions of of the following: (5)

- 0/100 technique
- 50/50 technique
- 72/25 technique
- The milestone technique
- Percentage complete