Assignment 01: Due date 13 March 2015 Compulsory

Unique nr: 594086
Marks weight: 10%

ASSIGNMENT 01 - SEMESTER 1

ASSIGNMENT 01 - COMPULSORY	
Due date	13 March 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:
594086

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.

1. A _____ is said to be *"A specific plan or design" or "A planned undertaking"*

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

2. Software Project Management scope normally comprises the following:

a. Project Feasibility
b. Project Initiation
c. Project Planning
d. Project Execution

e. Project Control
f. Project Termination

Which of the above combination is correct for Project Management scope?

1. a, b, e, and f only.
2. a, c, and e only.
3. b, d, and f only.
4. a, b, c, d, e, and f.
5. a, b, c, and e only.

3. Within the *Project Execution a*ctivity, project management scope certainly also encompasses the systems development life cycle as follows:

i. Systems Planning
ii. Systems/Requirements Analysis
iii. Systems Design
iv. Systems Implementation
v. Systems Maintenance and Support

Which of the above statement(s) is/are true?

1. i, and v only.
2. i, iii, and v only.
3. ii, and iv only.
4. iv, and v only.
5. i, ii, iii, iv, and v.

4. Similarities between General Project Management and Software Project Management in terms of the fundamental concepts include:

i. Scope
ii. Time and deadlines
iii. Cost / budget
iv. Human resources
v. Quality control
vi. Communication
vii. Setting and meeting objectives
viii. Requires a feasibility study and planning

Which of the above combination is true?

1. All the eight statements are true.
2. i, iii, v, and viii only.
3. ii, iv, vi, and vii only.
4. i, ii, iii, and viii only.
5. i, ii, iii, iv, vi, vii and viii only.

5. Which of the following statement(s) is/are true concerning the differences between General Project Management and Software Project Management in terms of inherent characteristics of software and the software environment are:

i. Invisibility
ii. Complexity
iii. Conformity
iv. Flexibility

Which of the above combination is true?

1. ii, and iii only.
2. i, ii, and iii only.
3. i, and iv only.
4. ii, iii, and iv only.
5. i, ii, iii, and iv.

6. When producing a system in a project, different models can be chosen. The following are advantages of one of the process models:

i. Large projects may benefit from the limited iteration process allowed
ii. Logical flow aids in understanding
iii. Sequential project processes are easier to plan and implement
iv. Allows project completion times to be forecast with a relative degree of accuracy
v. It is relatively simple and easy to understand
vi. Enables allocation of tasks within a phase
vii. The progress can be evaluated at the end of each phase

Which of the process model has the above advantages?

1. Waterfall model.
2. Spiral model.
3. Rapid Application Development (RAD).
4. Component-Based Development (CBD).
5. "b" Model.

7. Which of the following is NOT one of the different criteria that can be used for assessing and evaluating a project?

1. Strategic assessment
2. Technical assessment
3. Economical assessment
4. Objectives assessment
5. Risk assessment

8. The _____ is the difference between the total cost and the total income of a project over its lifetime. This includes both direct as well as indirect costs.

1. Payback
2. Net profit
3. Net present value
4. Cash flow
5. All of the above

9. _____ is a project evaluation technique that takes into account both the profitability of a project as well as the timing of the cash flow that are produced.

1. PERT
2. Activity network
3. Net Present Value (NPV)
4. Present value
5. Return On Investment (ROI)

10. _____ , also known as accounting rate of return, provides a way of comparing the net profitability to the investment required.

1. PERT
2. Return On Investment (ROI)
3. Payback period
4. Net Present Value (NPV)
5. CPM

11. Prototypes can be used to eliminate risk and facilitate communication by:

a. Specific assumptions, dependencies or concepts are tested thus resulting in a better understanding of the system.
b. Encourage end-user participation during all stages of development thereby largely reducing product uncertainty.
c. The systems development process becomes clear to all stakeholders and tangible deliverables are produced on a continuing basis allowing for regular end-user assessment and testing.
d. The iterative approach may identify possible risk areas early in the life cycle that will alert the project manager to apply risk management criteria to reduce the possible influence thereof on the project.

Which of the above statement (s) is/are true?

1. a, b and d only.
2. b and c only.
3. b, c, and d only.
4. a and c only.
5. a, b, c, and d.

12. Which of the following reasons that have been put forward for prototyping is FALSE?

1. Improve user involvement
2. Clarification of partially known requirements
3. Reduce need for documentation
4. Increase maintenance costs
5. Improve communication

13. Which of the following is taken into consideration by the Net Present Value?

1. Cash flow timing, discount rate and net profit
2. Net Profit, discount rate and IRR
3. Cash flow, DCF and IRR
4. Net profit, DCF and IRR
5. All of the above

14. Discount factors will change when the following changes:

1. Investment
2. Period over which to discount
3. Interest rate
4. 2 & 3
5. All of the above

Assignment 02: Due date 27 March 2015 Compulsory

Unique nr: 594117
Marks weight: 20%

ASSIGNMENT 02 - SEMESTER 1

ASSIGNMENT 02	
Due date	27 March 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:
594117

3. Show all your working (calculations).
4. This assignment consists of 5 questions.

QUESTIONS FOR ASSIGNMENT 02:

The cash flows of Projects 1, 2 and 3 is given in the table below (in ZAR, South African rand, R):

Year	Project 1	Project 2	Project 3
0	- R 175 000	- R 150 000	- R 300 000
1	+ R 15 000	+ R 5000	+ R 30 000
2	+ R 20 000	+ R 15 000	+ R 30 000
3	+ R 50 000	+ R 20 000	+ R 50 000
4	+ R 50 000	+ R 30 000	+ R 120 000
5	+ R 50 000	+ R 60 000	+ R 120 000
6	+ R 50 000	+ R 90 000	+ R 120 000

Table of cash flows for Project 1, 2 and 3

Use this information to calculate the **Net Profit**, the **Return on Investment** (ROI), the **payback period** and the **Net Present Value** at 10% for **each** 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)
5. Based on your calculation of the individual NPV of each project in question 4 above, which project would you select to develop? (2 marks)

Assignment 03: Due date 02 April 2015

Unique nr: 594147
Marks weight: 40%

ASSIGNMENT 03 – SEMESTER 1

ASSIGNMENT 03	
Due date	02 April 2015
Study material	Hughes & Cotterell: Chapters 5, & 6
Total marks	60 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	23557	Organic
B	18553	Organic
C	17014	Semi-detached
D	10572	Embedded
E	9568	Semi-detached

Table for Question 1: System details

QUESTION 2: Questions on Chapter 5 (12 marks)

Allan Albrecht developed the IFPUG method that can be used to estimate a system size. Explain the steps in detail using your own example(s). (12)

Question 3: Questions on Chapter 6 (5 marks)

"Planning does not only take place during the project start-up." Discuss this statement, referring to **when** and **why** planning takes place as it does. (5)

Question 4: 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 Precedence network (Activity-on-node) diagram. Use the naming convention for nodes as used in Hughes & Cotterell, which is based on the British Standard BS 4335. (See textbook page 144) Complete both a forward and backward pass to determine the total duration and critical path. (15)

Assignment 04: Due date 10 April 2015

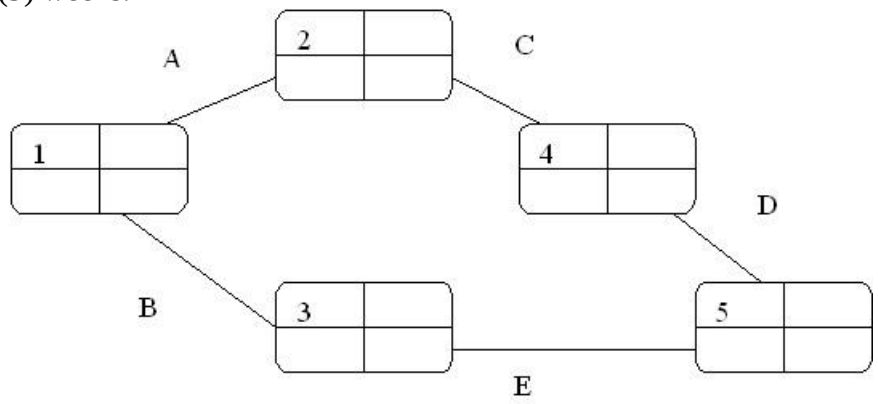
Unique nr: 594175
Marks weight: 30%

ASSIGNMENT 04 – SEMESTER 1

ASSIGNMENT 04	
Due date	10 April 2015
Study material	Hughes & Cotterell: Chapters 6, 7 & 9
Total marks	50 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 **(25 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. (12)
1.3 Calculate the Z value on the last event (2)
1.4 According to figure 7.8 in your textbook, what is the probability of not meeting the target date? (1)

Question 2: Questions on Chapter 7, Chapter 6 and Chapter 9 (25 marks)

2.1 Discuss the categories of cost. (6)
2.2 Explain what a critical path is. (3)
2.3 The timeline chart is useful both during the execution of a project and as part of the post-implementation review. John is the project leader and his duty is to make sure the project is finished in time. The other members and their job specifics are:

Anna – Analyse existing systems (2 weeks)
Bennie – Obtain user requirements (3 weeks)
Connie – Plan office layout (3,5 weeks)
Pieter – Issue tender (4,5 weeks)

(Note: the weeks in brackets are the scheduled time for the project to be completed.)

After the second week Anna is on schedule with her work but Bennie is delayed with a week. At the end of the third week Bennie did not experience further delays. By the end of the fourth week Bennie is finished but now Connie is delayed with a whole week. This was the last delay in the project.

Draw a timeline chart, based on the information provided above. (8)

2.4 Discuss *Monitoring Earned Value*. (8)