



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENGINEERING AND TECHNOLOGY
UNIVERSITY EXAMINATIONS FOR THE DEGREE OF SCIENCE IN
BUILDING CONSTRUCTION AND MANAGEMENT
3RD YEAR 1ST SEMESTER 2015/2016 ACADEMIC YEAR
CENTRE: MAIN CAMPUS

COURSE CODE: TCM 3312

COURSE TITLE: CONSTRUCTION PROJECT PLANNING AND CONTROL

EXAM VENUE: CR

STREAM: BSc IN CONSTRUCTION

DATE: 27/4/16

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2 HOURS

Instructions

- 1. Answer Question 1 (compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION ONE (30MARKS)

- a) Briefly state the origins of operations research **(2marks)**.
- b) Name and describe four commonly applied operations research models **(16marks)**.
- c) Discuss the following terms or expressions that are used in problem identification during project planning process;
 - i) Godzilla principle **(3marks)**.
 - ii) Triple constraints principle **(3marks)**.
 - iii) Control principle **(3marks)**.
 - iv) Pop-up principle **(3marks)**.

QUESTION TWO (20MARKS)

- a) Define the term 'project management' **(2marks)**.
- b) Discuss the 'triple constraints' of project management that must be controlled to ensure project success **(18marks)**.

QUESTION THREE (20MARKS)

- a) Towards the end of the 19th century, classical and neo classical theories of management began to emerge. Discuss the contributions of Frederick Taylor and Elton Mayo to classical and neo classical management theories respectively **(10marks)**.
- b) Discuss the consequences of non application of project management attributes during project implementation **(10marks)**.

QUESTION FOUR (20MARKS)

- a) Describe the following network scheduling techniques;
- i) Program Evaluation and Review Technique (6marks).
 - ii) Critical Path Method (6marks).
- b) Briefly state the advantages of network scheduling techniques over Gantt chart technique (8marks).

QUESTION FIVE (20MARKS)

The table below shows activities and timelines for the implementation of a construction project in Bondo Township. Draw a Gantt chart diagram scheduling project activities over the entire implementation period. Also indicate slack time on the diagram.

Activity	Preceding Activity	Time(weeks)
A	-	4
B	-	3
C	A	5
D	A	3
E	B	4
F	B	4
G	B,C	2
H	D	2
I	D,E,G	3
J	D,E,G	5
K	H,I	4
L	F,J	6