TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
Faculty of Engineering and Technology in Conjunction with Kenya Institute of Highways & Building Technology **(KIHBT)**

HIGHER DIPLOMA IN TECHNOLOGY
ELECTRICAL POWER ENGINEERING

EEE 3206 ENGINEERING MANAGEMENT AND PROFESSIONAL PRACTICE II

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. You should have the following for this examination
   - Answer booklet
   - Electronic calculator
   - Student ID
   - Examination pass
2. This paper consists of **FIVE** questions.
3. Answer **ANY THREE** questions.
4. All questions carry equal marks.
5. **Do not write on the question paper**
   This paper consists of **THREE** printed pages

PAPER ONE

QUESTION ONE

1. Explain any **THREE** objectives of Network Analysis in project implementation planning (9mks)
2. An electrical contractor undertook a project with activities as listed in table 1 below. Construct the project network indicating the earliest starting time (EST) and the earliest finishing time (EFT) for each activity and show the critical path of the project on the network. Determine then;-
   i. The profit duration in month of (30 days) if the company worked on 5 day week and the work started on a Wednesday.
   ii. The float for activities G, K and R (10mks)

ACTIVITY	DURATION MONTHS	NODE NUMBERS	ACTIVITY	DURATION MONTHS	NODE NUMBERS
A	6	1-2	N	0	8-11
B	10	1-3	O	8	9-11
C	3	1-4	P	12	11-12
D	8	2-5	Q	10	9-12
E	4	3-6	R	8	10-12
F	0	3-7	S	6	12-14
G	12	4-7	T	3	13-14
H	14	7-10	U	2	14-15
I	6	5-8			
J	8	5-6			
K	10	6-9			
L	11	6-10			
M	12	10-9			

QUESTION TWO

1. Explain any **TWO** benefits that may be realized by a firm practicing method study. (4mks)
2. Explain any **FOUR** functions of an inspection department in a manufacturing organization (4mks)
3. Explain the following methods of production in a manufacturing company stating **ONE** example in each case;
   i. Flow production
   ii. Batch production
   iii. Job production (6mks)
4. Explain the following terms below as they are applied in contract law.
   i. Condition of contract
   ii. Warranty of contract (6mks)

QUESTION THREE

1. State any **THREE** methods of disposal for;-
   i. Obsolete stock
   ii. Surplus stock
2. Define;

i. Stock control
ii. Stock taking
iii. Stock arising (3mks)

3. Describe the following process in material supplies;
   i. Inspection of goods delivered from suppliers
   ii. Expediting and progressing of orders
   iii. Clearing of invoices for prices and quantity discounts and purchase condition (6mks)
4. Draw the inventory cost and ordering cost curves and from it, explain the importance of the point of economic ordering Quantity (EOQ) as used in supply and material management. (8mks)

QUESTION FOUR

1. Explain how the following could be "Time wasters" to managers.
   i. People
   ii. Unclear objectives
   iii. Meetings
2. Distinguish between MANAGEMENT and ADMINISTRATION in project management. (4mks)
3. State the objectives of the following process in a production situation.
   i. Method study
   ii. Work measurement (4mks)
4. In work measurement for costing of physical work in construction projects, explain;-
   i. Piece work
   ii. Hourly rate
   iii. Fixed time (6mks)

QUESTION FIVE

1. State the merits of;
   i. Planned maintenance
   ii. Breakdown maintenance
   iii. Statistical quality control in a production system. (6mks)
2. Outline the steps required by planned preventive maintenance system to ensure efficient use of machines in a factory. (4mks)
3. Explain how replacement may be preferred to either repair or service of a machine. (4mks)
4. Draw the optimum provision graph and explain the importance of the point of optimum level for maintenance (6mks)