



*"Investing in Africa's Future"*

**COLLEGE OF SOCIAL SCIENCES, THEOLOGY  
HUMANITIES AND EDUCATION  
DEPARTMENT OF EDUCATION**

**ELM620 PROJECTS AND FINANCE  
END OF SECOND SEMESTER EXAMINATIONS**

**MAY 2018**

**LECTURER: (E K NYATANGA)**

**DURATION: ( 3HRS)**

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***INSTRUCTIONS***

1. Answer any four (4) questions from the five questions.
2. All questions have equal marks (25)

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### QUESTION 1

Ten machines were assessed to find out the relationship between their ages and the cost of maintaining them. The data are shown below.

Age of Machine (X)	Maintenance Cost (Y)
5	190
10	240
15	250
20	300
30	310
30	335
30	300
50	300
50	350
60	395

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - (\sum X)^2}$$

$$n\sum X^2 - (\sum X)^2$$

$$a = \frac{\sum Y - b\sum X}{n}$$

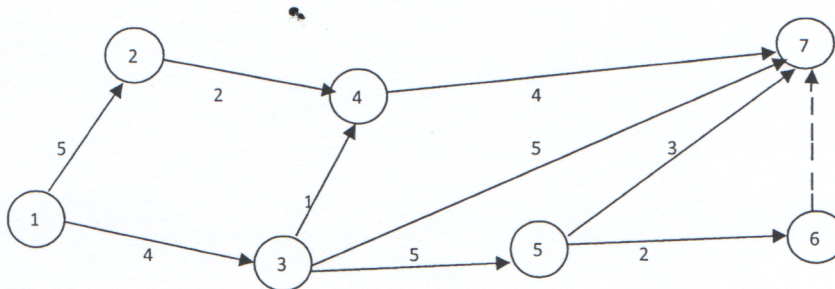
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(a) Calculate the least squares regression line of cost on age. (20 Marks)

(b) What is the estimated maintenance cost for a machine whose age is 40 months? (5 Marks)

### QUESTION 2

The following network of a project gives the event numbers and activity times in weeks.



a. Redraw the network and show the earliest and latest event times for all the events. (14 marks)

b. Highlight the critical path. (4 marks)



- c. What is the expected project completion time? **(4 marks)**
- d. What is the term given to the activity shown in dotted line? **(3 marks)**

### **QUESTION 3**

- a. Explain the difference between business risk and financial risk. **(10 marks)**
- b. Describe the factors that affect business risk. **(15 marks)**

### **QUESTION 4**

Discuss at least five factors that should be considered when you as an entrepreneur are contemplating project identification. **(25 marks)**

### **QUESTION 5**

In project implementation tendering and contracting are critical processes. Describe the content of 'an invitation to bid (ITB) document or advertisement. **(25 marks)**

**END OF EXAMINATION QUESTION PAPER**