OLABISI ONABANJO UNIVERSITY, AGO-IWOYE
DEPARTMENT OF EDUCATIONAL MANAGEMENT AND BUSINESS STUDIES
HARMATTAN SEMESTER EXAMINATIONS
2016/2017 ACADEMIC SESSION

EXAMINATION: Bachelor of Business Education Examination
COURSE CODE: BED 315
COURSE TITLE: Operation Research
COURSE UNIT: 2 Units
TIME ALLOWED: 2 Hours
INSTRUCTIONS: Attempt all questions

1a. Define Operational Research (5 marks)
1b. Who is a decision maker? (5 marks)
1c. Discuss the purpose of Modelling (10 Marks)

2. Identify any five (05) environmental factors or states of Nature that affect a decision situation. (5 marks)

3. An investor is confronted with a decision problem as represented in the matrix below. Analyse the problem Using the EMV and EOL criteria and advise the decision maker on the best strategy to adopt.

State of Nature	Alternatives			
	Expand	Construct	Subcontract	Prob
High(N)	50,000	70,000	30,000	0.5
Moderate(N)	25,000	30,000	15,000	0.3
Low(N)	25,000	-40,000	-1,000	0.15
Nil(N)	-45,000	-80,000	-10,000	0.05

(20 Marks)

4. A farmer is considering his activity in the next farming season. He has a choice of three crops to select from for the next planting season – Groundnuts, Maize, and Wheat.Whatever is his choice of crop; there are four weather conditions that could prevail: heaving rain, moderate rain, light rain, and no rain. In the event that the farmer plants Ground nuts and there is heavy rain, he expects to earn a proceed of N650,000 at the end of the farming season, if there is moderate rain N1,000,000, high rain – N450,000 and if there is no rain – (-N1,000) If the farmer plants Maize, the following will be his proceeds after the harvest considering the weather condition: heavy rain – N1,200,000, moderate rain – N1,500,000, Light rain – N600,000 and no rain N2000. And if the farmer decides to plant wheat, he expects to make the following: heavy rain – N1,150,000, moderate rain – N1,300,000, Light rain- N800,000 and No rain – N200 -000. The farmer has contact you, to help him decide on what to do.

Question: Construct a payoff matrix for the above situation, analyse completely and advise the farmer on the course of action to adopt. Assume $\alpha = 0.6$. (25 marks)