AFRICA UNIVERSITY

(A United Methodist-Related Institution)

"Investing in Africa's Future"

FACULTY OF MANAGEMENT AND ADMINISTRATION

COURSE TITLE: MPM201 Project Management

SEMESTER 1: Final Examination November 2016

LECTURER: Dr S. Murairwa

TIME: 3 Hours

INSTRUCTIONS

Answer *All* questions

Start each question on a new page in your answer booklet.

The marks allocated to each question are shown at the end of the section.

Credit will be given for logical, systematic and neat presentations.

1. A project is a collection of linked activities carried out in an organised manner with a clearly defined starting and finishing point to achieve some specific results that satisfies the needs of the organisation as derived from carried business plan
   a) List six characteristics of a project **[6 Marks]**
   b) State the four attributes of a project **[4 Marks]**
   c) State the duties of the project manager **[5 Marks]**

2. The owner of a small supermarket has decided to install new electronic point of sales equipment in place of older ones. This will involve physical changes to the workplace for the check-out staff, new wiring and changes to the way the staff work. The equipment is to be interfaced with an existing stock control, which will require some modification. An equipment supplier has been contracted to design, supply the system, make modifications to the stock control software, train staff and supervise the initial operation. Make whatever assumptions you think reasonable about the division of responsibilities.
   a) List six deliverables that could be specified for the project? **[6 Marks]**
   b) List six client responsibilities that the contractor's project manager might identify **[6 Marks]**
   c) Discuss the steps of designing a system of monitoring the project **[4 Marks]**
   d) With a well labelled diagram, explain the project integration management **[12 Marks]**

3. Attempt the following questions:
   (a). Develop a work breakdown structure for installing a new oven **[5 Marks]**
   (b). Draw the project life cycle and discuss its importance **[6 Marks]**
   (c). When deciding or selecting on a project there is need for the organisation to do a self introspection. State the areas the organisation should assess itself **[4 Marks]**
   (d). Discuss the constraints that define the success or failure of a project. **[4 Marks]**

4. The following table shows the activities, times and costs for a house project:

	Activity	Preceding	Time (Weeks)
A	Clear site	-	5
B	Excavate	-	3
C	Pour foundation	**A**	7
D	Frame house	**A**	6
E	Lay floor	**B**	7
F	Lay roof	**D, E**	3
G	Plumbing	**D, E**	10
H	Finish	**C,F**	8

(a). Draw the network diagram. How long will it take to complete the project? **[8 Marks]**
(b). Can activity D be delayed? If so, by how many weeks? **[3 Marks]**
(c). What is the schedule for activity E? **[4 Marks]**

5. XY television station is replacing its software from analogue to digital. The project is expected to be completed in 8 months at a cost of $20 000 per month. After 2 months, the project manager and his team realised that the project is 30% completed at a cost of $80 000.

(a). Determine whether the project is on-time, on-budget after 2 months and forecast on estimates. **[8 Marks]**

(b). Using the theories of motivation or the theories of the nature of work, explain the likely motivations suitable for a job involving the routine processing of insurance forms **[6 Marks]**

6. For example, consider a five year project with an initial investment of $200 000 in the first year and $40 000 in the 2nd, 3rd and 4th year and 160 000 in the 5 year. Estimated benefits in year one is $0 and $120 000 in each of the 2nd, 3rd and 4th year. The fifth year has $200 000. Use a discount rate of 0.10.

   a) Calculate and clearly display the Net Present Value, Return on Investment and year in which paybacks occurs. Write a paragraph on whether you would recommend investing in this project basing on your financial analysis results **[6 Marks]**

   b) Calculate the payback period **[3 Marks]**

End of paper

FORMULA

1. $K = \frac{C_c - C_n}{M}$

2. $M = T_n - T_c$

3. Let:
   o = optimistic time estimate
   m = most likely time estimate
   p = pessimistic time estimate

   $Mean\ (Expected\ Time): t = \frac{o+4m+p}{6}$

   $Variance: \sigma^2 = \left(\frac{p-o}{6}\right)^2$

4. Social cost = Private costs + Negative Externalities

5. Social benefit = Private benefits + Positive externalities