

The Open University of Sri Lanka
Faculty of Engineering Technology



Study Programme	: Master of Technology in Industrial Engineering – Level 7
Name of the Examination	: Final Examination
Course Code and Title	: MEX7120 – Project Management
Academic Year	: 2016/17
Date	: 05 th December 2017
Time	: 13.30-16.30h
Duration	: 3 hours

General instructions

1. Read the questions carefully before answering.
2. Please note that you should write your registration number and your index number in each pages of your answer book. Do not write your name.
3. In case of doubt, please consult the supervisor or an invigilator conducting the examination.
4. Answer any five (05) questions.

-
1. Discuss “managing risk is an essential task in projects” Substantiate your discussion with an example.
 2. Explain how quality management principles support to achieve project strategic objectives. Substantiate your discussion with examples.
 3. How do you manage an imposed project team to ensure project success? Substantiate your argument with yours experiences.
 4. How do you apply closed loop feedback system to monitor and control milestone progress? Substantiate the answer with a pragmatic example.
 5.
 - a) What are the factors **NOT** accounted in network analysis?
 - b) Construct an activity on arrow network based on the activity descriptions given below:
 - Activity I follows Activity B and precedes Activity Q.
 - Activity B1 and precedes Activity P and follows completion of Activities Q, K2 and E.

- Activity R follows completion of activity B.
 - Activity S2 follows R and S1, and precedes activity P.
 - Activity K3 is preceded by activities X, L, and Z and followed by activities G and F.
 - Activity E2 follows no activity and succeeded by activities A1, X, L, and Z.
 - Activity B can start when activities A1 and X are completed.
 - The predecessors to activity S1 are activities E, G, and F.
 - Activity E depends on activity L and E2 and precedes activities N2, S1, and K2.
 - Activity K2 follows activities N2, R, and L.
 - Activity P depends on activities R and N2.
 - Activity S2 depends on activities X, F, and E2
- c) Which activities should be completed in time to prevent any delays?
6. Activities, their duration, precedence, staff and budget of a periodic inspection & maintenance of an aircraft are as tabulated below:

Activity	Duration (wks)	Staff	Precedence	Budget(\$)
GH	1	3	-	840
EL1	2	2	GH	840
EN12	6	6	EL1	3900
AF12	14	6	EL1	16100
EL2	6	2	EL1	2520
AV12	6	4	EL1	2940
AR12	4	4	EL1	2380
AF3	2	4	AF12	1400
EN3	1	2	AF3, AN12	350
AR3	1	2	AF3, AR12	210
AV3	2	3	AF3, AV12	1470
EL3	3	2	AF3, EL2	1260
TEST	2	4	EN3, AV3, AR3, EL3	27800
H/O	1	6	TEST	900

Prepare a Budgeted Cost of Work Scheduled (BCWS) for the inspection and maintenance of the machine with the restricted staff of six (6).

- 7.
- a) Deduce a Resource loading Schedule for the activities given below with the staff of ten people.

Node()()	Activity	Time (wks)	Staff
0-1	A	3	2
0-2	B	6	3
0-3	C	5	3
1-4	D	5	10
2-4	E	4	3
2-5	F	6	2
2-3	G	3	2
3-5	H	0	0
3-6	I	4	2
4-7	J	8	8
4-5	K	4	3
5-7	L	6	4
5-6	M	5	2
7-8	N	3	2
6-8	O	7	6

- b) How long will the project be delayed because of the staff restriction?
- c) What will be the staff-week lost incurred due to the staff restriction?