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THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF ENGINEERING TECHNOLOGY
BACHELOR OF INDUSTRIAL STUDIES
FINAL EXAMINATION 2010/2011

MEX5255–MAINTANANCE MANAGEMENT AND PROJECT MANAGEMENT
DATE : 04th April 2011
TIME : 1400 hrs –1700hrs
DURATION : 03 Hours

INSTRUCTIONS:

- **Answer five (05) questions including THREE from PART A and TWO from PART B.**
- **All questions carry equal marks.**
- **Please answer the questions in PART A and PART B on separate answer sheets. PART A has FOUR questions and PART B has THREE questions.**

PART-A

Q1. (a) In a manufacturing organization.

i. What are the Inputs and the outputs?

ii. Mention the external and the internal factors that have a direct influence on the functions of the organization.

iii. Draw a model of such an organization depicting it's role players.

(b) Considering the Industrial organization as " a social - technical system", How will classify it into various sub systems?

Q2. (i) Briefly mention the objectives of Maintenance Management in a Manufacturing plant.

(ii) Explain how you would classify Maintenance Planning and scheduling.

(iii) "Apart from the Instruction manual provided by the manufacturer for the equipment, it is the duty of Maintenance department to prepare other relevant documents", explain how you would do this mentioning the list of other documents that you will introduce for proper implementation of Maintenance.

Q3. (a) Explain "Ionization Radiation".

What are the sources that can emit ionization radiation?

(b) Draw a wavelength spectrum to illustrate the following sources of electromagnetic energy.

- visible light range.
- Ultra violet light.
- Infra Red.
- Micro wave.
- Radio Frequency.
- X ray and γ radiation.

Q4. Write short notes on the following.

- Total productive maintenance.
- Stroboscopic effect.
- Curie (Ci).
- Toxicity of chemicals.
- Decibel.
- Contrast.

PART-B

05. Given below is a project network of a Multi National Company.

Activity	preceding Activity	duration weeks	staff
A	-	4	3
B	-	2	2
C	-	6	3
D	A	10	5
E	B	2	1
F	C,E	1	1
G	D	3	4
H	F	2	2
J	H,G	20	5
K	G	1	1

a. Draw activity on arrow net work diagram.
b. Find the critical path of the network.
c. Find the average staff effect required throughout the project.
d. Construct resource- limited schedule with strict limit of average staff.

06. "More important than life-cycle are the milestones and deliverables agreed as pat of the project"
   a. Critically analyze the above statement.
   b. What are the success factors of a project?
   c. What are factors for high likely hood of project success?

07. a. How WBS support to achieve the project objective(s) and the organization strategy?
   b. What are the techniques available for project scheduling? Describe their advantage and disadvantages.

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