



Biomedical Engineering

## Project Management

Course Code: UNR431

Level: 400

Allowed Time: 2 hours

27/12/2017

First 2017 /2018

Final Exam [50 Marks]



Faculty Of Engineering

All questions are in two pages.

Don't use pencil.

Answer ALL the questions.

Q.1) [5 Marks]

You are the project manager for a medical waste burning project. Local residents and environmental groups are opposed to this project. Management agrees to move this project to a different location. This is an example of which one of the following risk responses?

- a. Passive acceptance
- b. Active acceptance
- c. Mitigation
- d. Avoidance

Q.2) [5 Marks]

Procurement negotiation is a soft skill sets which is very vital for project manager. Which of the following is not true about conducting procurement negotiation?

- a. The project manager should be the lead negotiator.
- b. Subjects covered may include responsibilities and authority to make changes.
- c. Contract negotiations may be an independent process with inputs of its own.
- d. Negotiations should clarify the structure, requirements, and other terms of the purchase.

Q.3) [5 Marks]

Assuming that you want to rent an electricity generator for your project with a \$250 per day, and you can buy this equipment by the investment cost of \$1000, plus \$50 operating daily cost. What is period of time needed to equal the cost of the lease and the cost of the purchase?

If you need the item for 12 days, should you rent or buy it?

Q.4) [5 Marks]

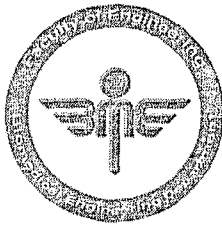
What are the main characteristics of the Project Manager?

Q.5) [5 Marks]

With the aid of drawing, explain how can Kanban (scheduling system) help in hospitals?

Q.6) [5 Marks]

Explain the role of TQM approaches of KAIZEN, 6 Sigma, & Balanced Score Cards in Health Care Projects.



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Q.7) Draw the Program Evaluation and Review Technique (PERT) according to the project data below: [5 Marks]

Position	Slack	Finish		Start		Depends on:	Duration (Day)	Description	Activity
		LF	EF	LS	ES				
critical	0	3	3	0	0	---	3	Determine objectives and plan the project	A
	5	13	8	8	3	A	5	Target customers and marketing tool	B
critical	0	13	13	3	3	A	10	Select the team	C
	2	19	17	15	13	C	4	Discuss the alternative ideas of design	D
critical	0	33	33	20	20	D,G,H	13	Choose the appropriate/optimum idea	E
critical	0	36	36	33	33	E	4	Execute the project	F
	2	20	18	15	13	C	3	Monitor and control the project	G
critical	0	21	21	12	12	B,C	7	Package, and deliver (close the project)	H

Q.8) [15 Marks]

Determine the critical path of the Project: Development of new insulin pump, using the data of the table below, assuming that all tasks will start as soon as possible.

Activity	Description	Dependency	Duration (Day)
A	Initiate the project and determine objectives	-	6
B	Target customers and marketing tool	-	3
C	Select the team	B	7
D	Discuss the alternative ideas of design	A	4
E	Choose the appropriate/optimum idea	B	5
F	Design the full identity of the project	C	9
G	Select the suitable portal of the project	E	3
H	Collect information, and materials	E	25
I	Execute the project	D	35
J	Monitor and control the project	I	26
K	Test the project outcomes	H	17
L	Prepare the appropriate prototype	G,F	7
M	Package, and deliver (close the project)	L,K,J	6

All Best Wishes, Dr. Nabil Shalaby