

Biomedical Engineering

Project Management

Course Code: UNR431

Level: 400

Allowed Time: 2 hours

20/01/2019

First 2018 /2019

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]

Your company, which operates one of the region's medical hazardous waste processing plants, has been convicted of illegally dumping toxic substances into the local river. The court has mandated that the required cleanup activities be completed by February 15. This date is an example of:

- a. A key event
- b. A milestone
- c. A discretionary dependency
- d. An external dependency

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 \$200 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 38 days, should you rent or buy it?

Q.4) [5 Marks]

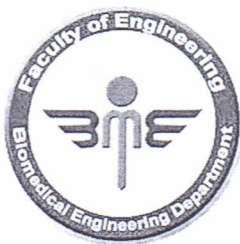
List the common sources of project's risk, and give two examples per each source.

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