

Higher National Diploma in Information Technology

Second Year, First Semester Examination – 2016

HNDIT2302 IT Project Management

Model Answers

Q1 Suppose that you are working as an IT Project Manager in a Garment Factory in Sri Lanka. This organization implements manually, the most functionalities such as marketing, advertising recruitments and others. You want to launch a project to convert these manual processes into an automated online system. Project duration is 6 months and starting date is 01/10/2016.

- ✓ i. What is the product of this proposed project? (Marks 01)

An automated online system

- ✓ ii. Define a term “Project” and state down two main attribute of an IT project? (Marks 03)

A project is “a temporary endeavor undertaken to accomplish a unique product service or result”

01 marks

*Any 2
marks*

1x2= 02

Invisibility: when physical artifacts such as bridge or road is being constructed the progress being made can actually be seen. With software progress is not immediately visible

Complexity: more complex than other engineering works

Conformity: software developers have to conform to the requirement of human clients.

Flexibility

- ✓ iii. State the main limitations of launching a successful project. (Marks 03)

scope, time and cost 01x 3 =03 marks

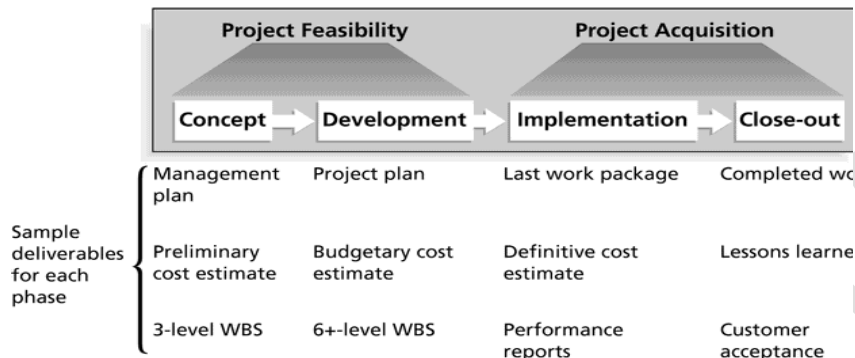
- iv. Why is “a Project Work” selected for this problem rather than “a Functional Work”? (Marks 06)

- ✓ v. State the phases of project life cycle. Give one deliverable of (Marks 06)
each phase.

04 phase: $01 \times 4 = 04$ marks

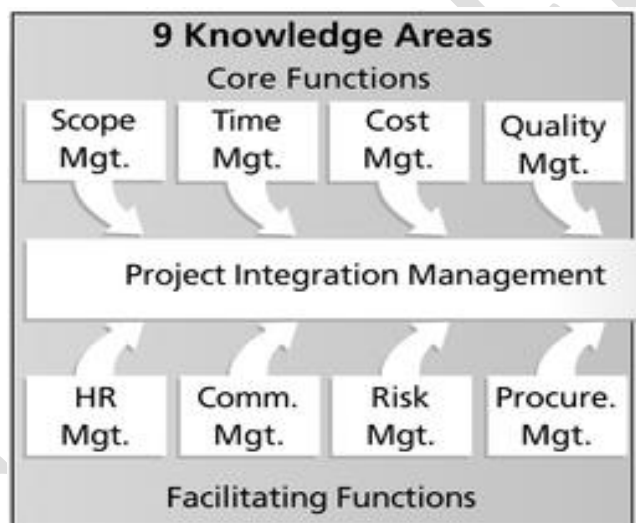
4 deliverable:

$0.5 \times 4 = 2$ marks



Describe the Knowledge areas in Project Management (Marks 06)

- ✓ vi.



frame

work.

Name 9 areas 05 marks

Divide them into core and facilitate 01 mark

(Total Marks 25)

- Q2 ✓ i Briefly explain the Project Integration Management processes.

- **Develop the project charter:** [02 Marks]

Work with stakeholders to create the document that formally (Marks 12)
authorizes a project—the charter.

- ***Develop the preliminary project scope statement:*** [02 Marks]

Work with stakeholders, especially users of the project's products, services, or results, to develop the high-level scope requirements and create a preliminary project scope statement.

- ***Develop the project management plan:*** [02 Marks]

Coordinate all planning efforts to create a consistent, coherent document—the project management plan.

- ***Direct and manage project execution:*** [02 Marks]

Carry out the project management plan by performing the activities included in it.

- ***Monitor and control the project work:*** [02 Marks]

Oversee project work to meet the performance objectives of the project.

- ***Perform integrated change control:*** [01 Mark]

Coordinate changes that affect the project's deliverables and organizational process assets.

- ***Close the project:*** [1 Mark]

Finalize all project activities to formally close the project.

- ii. Imagine that you are the project manager of a pharmaceutical company. The company management wishes to expand some areas of the company. The project portfolio management team needs to choose a project to initiate. What are the methods for selecting projects?
(Marks 04)

*Methods for selecting projects include:[1*4 Marks]*

- *Focusing on broad organizational needs.*
- *Categorizing information technology projects.*
- *Performing net present value or other financial analyses.*
- *Using a weighted scoring model.*
- *Implementing a balanced scorecard.*

- iii. For each row on the following chart, enter the letter of the project you would select if the following information was provided. Give reasons for your each selection.

	Project X	Project Y	Which project would you select?	Reason
NPV	Rs.95,000	Rs.75,000	X	Because it has the highest positive NPV
IRR	13 percent	17 percent	Y	Because it has the higher IRR
Payback period	16 months	21 months	X	We decide in favor of the project with the shorter payback period,

(Marks 09)

Q3

- ✓ i. Name three scope management processes.

Name any 3 01x3 =03 marks

Scope planning:

Scope definition:

Creating the WBS:

Scope verification

Scope control:

(Marks 03)

- ✓ ii. Name three approaches to develop Work Breakdown Structures

Any 03: 01x3 =03 marks

- *Analogy approach:*
- *Top-down approach:*
- *Bottom-up approach:*
- *Mind-mapping approach:*

(Marks 03)

- ✓ iii. Briefly explain how software can be assisted in Project Scope (Marks 04)

Management.

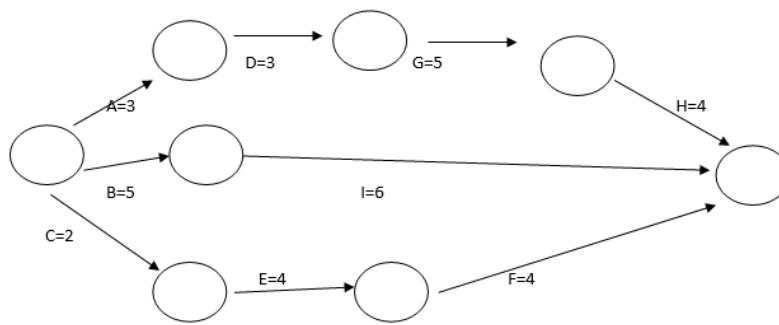
Briefly explain any 2: 02x2=-4 marks

- *Word-processing software helps create scope-related documents.*
- *Spreadsheets help perform financial calculations and weighed scoring models, and help develop charts and graphs.*
- *Communication software, such as e-mail and the Web, helps clarify and communicate scope information.*
- *Project management software helps create a WBS, the basis for tasks on a Gantt chart.*

- ✓ iv. The sales department in ABC company, which has their own in-house sales system, is being relocated to new offices where they will be a new server-based sales database system. The IT section has set out an outline plan for the IT aspects of the move, with 9 main tasks (with estimated durations):

a). Draw network diagram for data given in the following table. (Marks 05)

Activity	Description	Duration (weeks)	Dependency on activity
A	order and deliver the new database system and server	3	-
B	design and install the network infrastructure	5	-
C	order, deliver and install new PCs and printers	2	-
D	test the database system, server and network	3	A
E	test the PCs with the server and network	4	C
F	copy existing sales data to the new database system	4	E
G	copy other existing PC software to the new PCs	5	D
H	test all software and database on the new PCs and server	4	G
I	train users	6	B



(Marks 04)

b). Find the critical path

use path method:

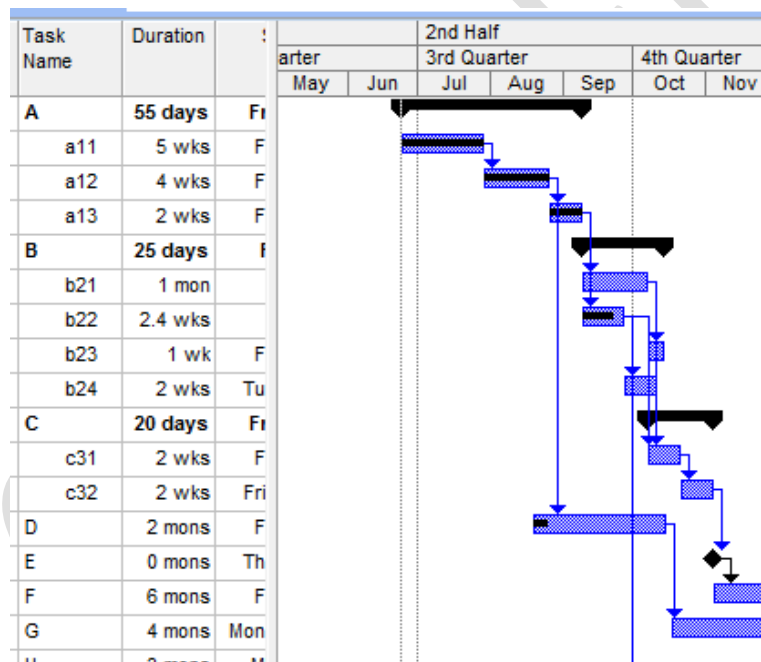
Critical path- A → D → G → H

(Marks 03)

c). Find the minimum time that need to finish the project

Minimum time= 15weeks

✓ iv. Answer following question using given gannt chart



Name one task for each of the following:

a. Summary Task: *Task A or B or C*

b. Task with Progress 100% : *Task a11 or a12 or a13*

c. Milestone: *Task E*

(Marks 03)

Q4 “Cost and quality managements are other trouble spots for IT projects. Both ensure to develop well fitted software within the budget”

- ✓ i. What is Project cost management processes *required to ensure that the project is completed within an approved budget*

(Marks 03)

- ✓ ii. Name three basic tools and techniques for cost estimating.

- a) *analogous or top-down:*
- b) *bottom-up:*
- c) *parametric: 01x3= 03 marks*

(Marks 03)

- ✓ iii. State three Cost Categories Related to Quality.

Any 03. 01x3=03 marks

- *Prevention cost*
- *Appraisal cost:*
- *Internal failure cost:*
- *External failure cost:*
- *Measurement and test equipment costs*

(Marks 03)

- iv. The size of a development project is 15000 Line of Codes and it has being evaluated as simple. Find the value for average staff and productivity using basic COCOMO model.

(hint: $E = 2.4 \times (\text{size})^{1.05}$ $TDEV = 2.5 \times (E)^{0.38}$)

Size= 15000/1000 kloc

01 mark

$$E = 2.4 \times (\text{size})^{1.05}$$

$$= 2.4 (15)^{1.05}$$

01 mark

$$TDEV = 2.5 \times (E)^{0.38}$$

$$= 2.5 [2.4 (15)^{1.05}]^{.38}$$

Average Staff= Effort / TDEV

(Marks 08)

$$= (2.4 (15)^{1.05}) / (2.5 [2.4 (15)^{1.05}]^{.38})$$

$$\text{Productivity} = \text{Size} / \text{Effort}$$

$$= 15 / (2.4 (15)^{1.05})$$

(2x3= 06 marks)

✓ v. Briefly explain ways of improving quality of IT projects

- Leadership that promotes quality
- Understanding the cost of quality
- Focusing on organizational influences and workplace factors that affect quality
- Following maturity models to improve quality

Briefly explain above 4: 02x4= 08 marks

(Marks 08)

(Total Marks 25)

Q5 i. What is meant by Project Human Resource Management and Project Procurement Management?

Project Human Resource Management: (3 marks)

Making the most effective use of the people involved with a project

Project Procurement Management (3marks)

Managing the acquiring goods and/or services from an outside source

(Marks 06)

ii. Briefly explain three processes, include in Project Communications Management

Any three name: 01 mark and explanation 01 mark

- *Communications planning: Determining the information and communications needs of the stakeholders.*
- *Information distribution: Making needed information available to project stakeholders in a timely manner.*
- *Performance reporting: Collecting and disseminating performance information, including status reports, progress measurement, and forecasting.*
- *Managing stakeholders: Managing communications to satisfy the needs and expectations of project stakeholders* (Marks 06)

and to resolve issues.

iii Briefly explain the following:

a) Maslow's Hierarchy of Needs

b) Statement of Work (SOW)

a) *Maslow's Hierarchy of Needs (3 marks)*

Theory which describe human needs, modeled as the shape of a pyramid. The model has five layers, physiological needs, safety, social, esteem, self actualization.....

b) *Statement of Work (SOW) (3marks)*

Description of the work required to be carried out in the project, this document is useful in procurement

(Marks 06)

iv. Discuss how to improve Project Communications. Use at least three factors and explain them.

Briefly explain any three of following or relevant answer .

Name three 1x3 marks. Explain each briefly 1.25x3=04 marks

- *Manage conflicts effectively.*
- *Develop better communication skills.*
- *Run effective meetings.*
- *Use e-mail effectively.*
- *Use templates for project communications*

(Marks 07)