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   (Marks 03)
an IT project?

A project is "a temporary endeavor undertaken to accomplish
a unique product service   or result"   01 marks

Any 2   1x2= 02
marks

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)
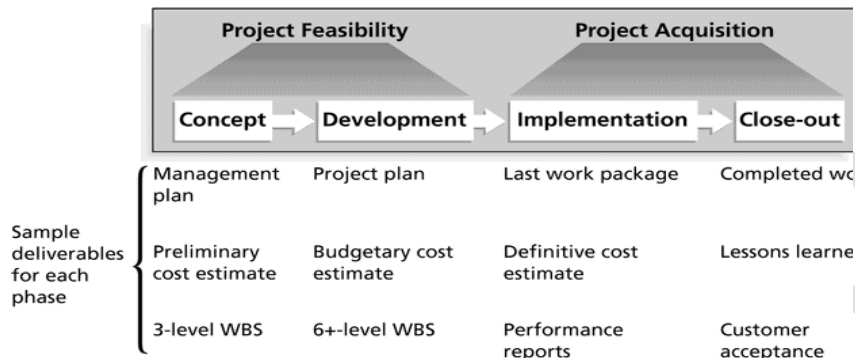*scope, time and cost   01x 3 =03 marks*

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

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

04 phase: 01x4 = 04marks

4 deliverable:

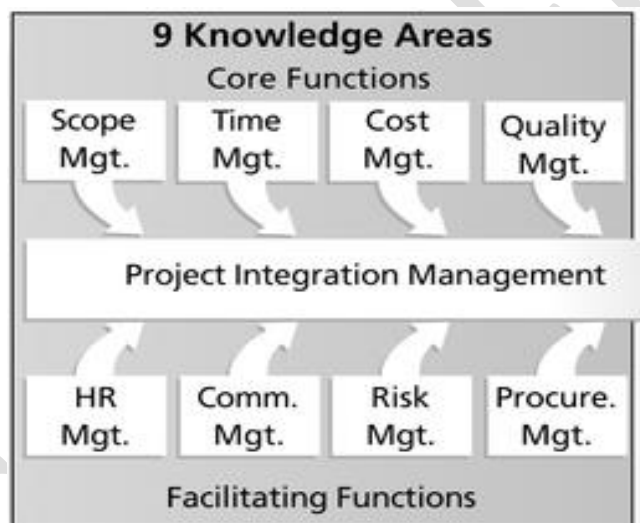0.5x4=2marks

	Project Feasibility		Project Acquisition	
	Concept →	Development →	Implementation →	Close-out
Sample deliverables for each phase	Management plan	Project plan	Last work package	Completed wc
	Preliminary cost estimate	Budgetary cost estimate	Definitive cost estimate	Lessons learne
	3-level WBS	6+-level WBS	Performance reports	Customer acceptance

vi. Describe the Knowledge areas in Project Management   (Marks 06)
frame work.

9 Knowledge Areas
Core Functions

Scope Mgt.	Time Mgt.	Cost Mgt.	Quality Mgt.

Project Integration Management

HR Mgt.	Comm. Mgt.	Risk Mgt.	Procure. Mgt.

Facilitating Functions

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)

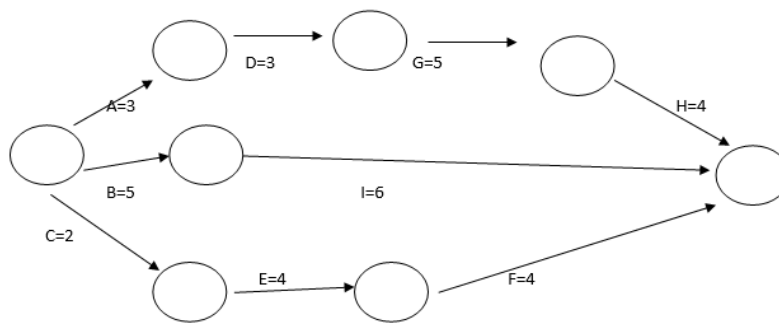iii. Briefly explain how software can be assisted in Project Scope (Marks 04)

Management.

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)

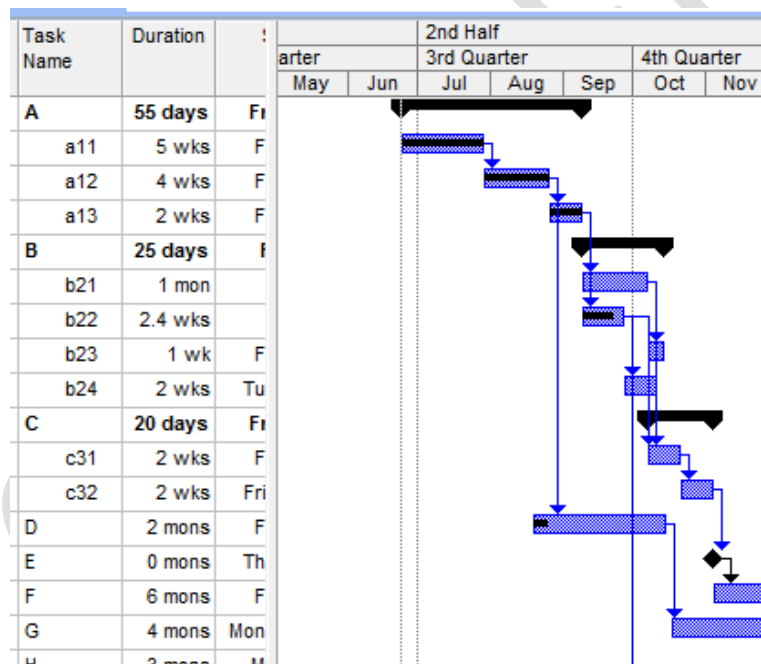b).Find the critical path

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 suing given gannt chart

Task Name	Duration	!	2nd Half							
			arter		3rd Quarter			4th Quarter		
			May	Jun	Jul	Aug	Sep	Oct	Nov	
A	55 days	Fr								
a11	5 wks	F								
a12	4 wks	F								
a13	2 wks	F								
B	25 days	F								
b21	1 mon									
b22	2.4 wks									
b23	1 wk	F								
b24	2 wks	Tu								
C	20 days	Fr								
c31	2 wks	F								
c32	2 wks	Fri								
D	2 mons	F								
E	0 mons	Th								
F	6 mons	F								
G	4 mons	Mon								
H	3 mons	M								

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

   Size= 15000/1000 kloc   *01 mark*

   $E= 2.4 \times (size)^{1.05}$
   $= 2.4 (15)^{1.05}$ *01 mark*

   $TDEV= 2.5 \times (E)^{0.38}$
   $= 2.5 [2.4 (15)^{1.05}]^{.38}$

   Average Staff= Effort / TDEV   (Marks 08)

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

$$Productivity = Size / Effort$$
$$= 15/ (2.4 (15)^{1.05})$$

(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 e 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 three1x3 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)