


National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	Professional Issues in IT	Course Code:	CS449
	Degree Program:	BS(Computer Science)	Semester:	Fall 2020
	Exam Duration:	90 Minutes	Total Marks:	60
	Paper Date:	24-Nov-2020	Weight	15 %
	Section:	ALL	Page(s):	6
	Exam Type:	Mid 2		

Student : Name: _____ Roll No. _____ Section: _____

Instruction/Notes: Provide precise answers in the given space. Longer answers will be discarded.
Think carefully before writing the answer.

Q1 [11 marks]

In the context of IT worker's relationship with different parties please answer the following questions:

[3 marks] As an IT consultant working for a client, what ethical issue might arise that can introduce a situation of conflict of interest for you?

To solve a problem for the client you recommend products of your own company when better products are available from competitors.

[4 marks] Suppliers who are working for your organization sometimes give away some "gifts" to your employees. On what basis would you categorize them as really gifts vs bribes? Highlight at least two differences.

Secretly vs openly

indirectly vs directly

low/moderate value vs high value

encourage obligation/favor vs no expectations

[4 marks] With respect to setting up governance for a project your client might want you to establish specific practices or impose certain requirements. Identify two such practices/requirements that would improve governance of the project from your client's perspective.

Periodic steering/status meetings

Periodic reports submission

Q2. [13 marks]

[3 marks] How would you describe the essential complexity of software construction?

the fashioning of the complex conceptual structures that compose the abstract software entity

[3 marks] How would you describe the accidental complexity of software construction?

the representation of these abstract entities in programming languages and the mapping of these onto machine languages within space and speed constraints

[4 marks] Provide two examples of technology/techniques that were used to address the accidental complexity of the software construction.

High level languages

IDEs

Toolkits and Frameworks

Design languages (UML etc.)

[3 marks] What options do we have to deal with essential complexity of the software construction?

Buy vs build

Rapid Prototyping

Growing software organically

Training of conceptual designers

Q3. [11 marks]

[4 marks] Identify two advantages of Peter Drucker's Management by Objectives (MBO) framework

Clearly defined (SMART) objectives that everyone understands

Easy to measure, communicate and manage

[4 marks] Identify two disadvantages of Peter Drucker's Management by Objectives framework

Not all objectives can be specified as SMART objectives

Favor short term objectives vs long term improvement objectives

KPIs distort behavior

[3 marks] What might be the alternative to MBO that can address its disadvantages?

Empowerment

Q4. [10 marks]

Consider Scrum process framework and answer the following questions

[4 marks] What is the difference between “Product Backlog” and “Sprint Backlog”?

Product backlog is prioritized list of all requirements

Sprint backlog is a list of requirements to be implemented in a sprint.

[3 marks] Does the framework allow changing the requirements in Product Backlog and why?

Yes, because agile is all about allowing the customer to change requirements during development.

[3 marks] Does the framework allow changing the requirements in Sprint Backlog and why?

No, because it will impact the concept of regular releases/sprints

Q5 [15 marks]

You have the choice of buying a van for your business today at \$15000 vs buying it on installments with an immediate down payment of \$5000 and yearly installments of \$2000 over the next 6 years. Perform a Discounted Cash-flow Analysis to find which option gets you better value for your cash given interest rate of 10%.

Month	Cost	Year	Discount factor	Discounted Cost
0	5,000	0	1.00	5,000.00
1	2,000	1	0.91	1,818.18
2	2,000	2	0.83	1,652.89
3	2,000	3	0.75	1,502.63
4	2,000	4	0.68	1,366.03
5	2,000	5	0.62	1,241.84
6	2,000	5	0.56	1,128.95
6				13,710.52

Buying on installments is better