

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

Department of Computer Science and Engineering (CSE)

MID SEMESTER EXAMINATION

SUMMER SEMESTER, 2017-2018

DURATION: 1 Hour 30 Minutes

FULL MARKS: 75

CSE 4273: System Analysis and Design

Programmable calculators are not allowed. Do not write anything on the question paper.

There are **4 (four)** questions. Answer any **3 (three)** of them.

Figures in the right margin indicate marks.

1. a) What is System Analysis and System design? Describe the roles of the system analyst. 2+4
- b) What are the main options for the acquisition of computer hardware? Mention their advantages and disadvantages and when to use one option over the others. 8
- c) What are the reasons for project failure? Describe the fishbone diagram with proper examples. 7
- d) What are the differences between MIS and DSS? 4

2. a) Perfect Pizza wants to install a system to record orders for pizza and chicken wings. When regular customers call Perfect Pizza on the phone, they are asked their phone number. When the number is typed into a computer, the name, address, and last order date is automatically brought up on the screen. Once the order is taken, the total, including tax and delivery, is calculated. Then the order is given to the cook. A receipt is printed. Occasionally, special offers (coupons) are printed so that the customer can get a discount. Drivers who make deliveries give customers a copy of the receipt and a coupon (if any). Weekly totals are kept for comparison with last year's performance. 10
 Draw the following dataflow diagrams for Perfect Pizza.
 - i. Context Diagram
 - ii. Diagram 0
- b) Write short notes on the followings: 8
 - i. Present value analysis.
 - ii. Leniency, Average tendency and Halo effect
 - iii. Break even analysis
- c) Briefly describe the phases of System Development Life Cycle (SDLC). 7

3. a) Define tangible and intangible costs and benefits. Should intangible costs and benefits be considered during analysis? If yes, explain why. 8
- b) IUTWear is a rapidly growing mail-order house specializing in all-cotton clothing. Management would like to expand sales to the Web with the creation of an ecommerce site. The company has two full-time system analysts and one programmer. Company offices are located in a small, isolated town in Bangladesh and the employees who handle the traditional mail-order business have little computer training. 5+5
 - i. Considering the company's situation, draw up a list of software attributes that IUTWear should emphasize in its choice of software to create a Web site and integrate the mail order business with business from the Web site.
 - ii. Would you recommend COTS software, custom software, or outsourcing to an ASP? State your choice and your reasoning.
- c) What is feasibility study? Explain the main areas of feasibility. 7

4. a) Draw the PERT diagram for the following activities and determine the critical path. Also draw the corresponding Gantt chart, assume you are in week 6 and you may have valid parallel activities in your diagram. 12

Table 1: A list of activities

Activity	Predecessor	Duration (In weeks)
A	None	6
B	None	3
C	B	2
D	A, C	3
E	A, C	4
F	D	2
G	E, F	5
H	B	3
I	G, H	2

- b) What is JAD (Joint Application Development)? Discuss the people who are involved and their respective roles in JAD? Mention some of its advantages and drawbacks. 10
- c) Given ₹ 100 investment, what is the present value of this investment in 10 years? 3
(Hint: Discount rate = 7%)