University of Asia Pacific

Department of Computer Science and Engineering

Mid-Semester Examination Spring-2021

Program: BSc in Computer Science and Engineering

Course Title: Systems Analysis and Design   **Course No.:** CSE 305   **Credit:** 3.00

Time: 1.00 Hour.   **Full Mark:** 60

Instruction(s): There are Three (3) questions. Answer all of them. All questions are of equal value. Part marks are shown in the margins.

1.   a. Explain how agile approaches involve discovering systems requirements.   [5]

     b. Discuss briefly about Systems Development Life Cycles (SDLC) with diagram. [15]

<div align="center">or</div>

    Suppose University of Asia Pacific is looking for a system analyst to design and develop an alumni portal for all of the former students. Now you are being asked to do the job. Perform necessary requirement analysis like Interviewing, Questionnaires, Review of Records, and Observation.   [20]

2.   A university registrar's office maintains data about the following entities:

    courses, including number, title, credits, syllabus, and prerequisites;

    program, including program name, total year, total semester and department name

    students, including student-id, name, email, mobile number and program;

    instructors, including identification number, name, department, and title.

    Construct an Entity Relationship Diagram (ERD) for the registrar's office. Explain all assumptions that you make about the mapping constraints.   [20]

3.   a. A project consisting of eight activities having the time-estimation and slack time as given below. Calculate the critical path. Determine how the slack is zero (0) for Activity A.

Activity	Immediate Processor	Activity Time (days)	Slack
A	-	15	0
B	-	20	5
C	A, B	10	15
D	B	35	0
E	C	25	5
F	C, D	30	15
G	D	20	0
H	E, F, G	5	0

[10]

b. Use the following information for a project, Draw the AON (Activity-On-Node) project network.

Activity	Immediate Processor	Activity Time (days)
A	-	6
B	-	8
C	A, B	5
D	B	4
E	C	7
F	C, D	3
G	D	6
H	E, F, G	5

[10]