GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER 3– • EXAMINATION – WINTER 2016

Subject Code: 2830402   **Date: 04/01/2017**

Subject Name: System Analysis & Design (SA&D)

Time: 02.30 PM TO 05.30 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 (a) Answer the following multiple choice questions: 06

1. JAD is popularly known as _____.
   A.   Joint Application Development   B.   Joint Analysis & Design
   C.   Joint Application & Design   D.   None of the above
2. Design Phase consists of _____.
      1.   Identity the functions to be performed
      2.   Design the input/output and file design
      3.   Defining basic parameters for system design
   A.   1 & 2   B.   2& 3
   C.   1 & 3   D.   1, 2 & 3
3. Cost-Benefit Analysis is performed during _____.
   A.   Analysis phase   B.   Design phase
   C.   Feasibility study phase   D.   Implementation phase
4. _____ is a tabular method for describing the logic of the decisions to be taken.
   A.   Decision tables   B.   Decision tree
   C.   Decision Method   D.   Decision Data
5. Debugging is _____.
   A.   creating program code   B.   finding and correcting errors in the program code
   C.   identifying the task to be computerized   D.   creating the algorithm
6. _____ design and implement database structures.
   A.   Programmers   B.   Project managers
   C.   Technical writers   D.   Database administrators

Q.1 (b) Define following terms briefly: 04
   1. COCOMO
   2. Primitive DFD
   3. OLTP
   4. Alpha testing

Q.1 (c) What do you mean by an "IS plan"? Discuss outline of an IS plan in brief.   04

Q.2 (a) Explain the different phases in the SDLC and discuss what are the problems associated with traditional waterfall approach of SDLC.   07

(b) Consider you are acting as an IT manager for "Future Tech Incorporation". Currently your firm requires inventory management software. Discuss as an IT manager, which are the different sources of software that you will consider in that situation.   07

OR

	(b)	What do you mean by "DFD"? Explain Gane & Sarson's symbols for drawing DFD. Take any practical example & draw its Context & Level 0 DFD.	**07**

Q.3	**(a)**	Explain the traditional methods for determining System requirements.	**07**
	(b)	What do you mean by "Super type & Sub type" in DFD? Explain with any example.	**07**

OR

Q.3	**(a)**	Describe five methods of interacting with a system and list down various hardware devices for interacting with an information system.	**07**
	(b)	Explain the concept of "Decision Table". Take any practical example & discuss this concept.	**07**

Q.4	**(a)**	Answer the following questions:	**07**
		1. Differentiate : File server vs. Client server	
		2. Write a short note on: Structure Chart	
	(b)	What do you mean by "Check Digits"? Discuss this concept with any practical example.	**07**

OR

Q.4	**(a)**	Write down short note on: Software Testing	**07**
	(b)	What are the different approaches to installation? Explain & justify the most risky method for the same. According to you which implementation method is currently being used by BRTS in Ahmedabad city of Gujarat state of India?	**07**

Q.5	**Discuss the case study with answers of following questions.**	**14**

PROJECT MANAGEMENT (PM) at Global Green Books Publishing

Global Green Books Publishing was started by two friends, Jim King and Brad Mount, who met in college while studying in Philadelphia, USA. In the new business Jim focused on editing, sales and marketing while Brad Mount did the electronic assembly and publishing of books for Global Green Books. Their business was successful and profitable in the first two years, largely due to contracts from two big businesses.

In their third year they got very busy thanks to their third major customer, a local college that needed customized eBooks. They hired several part time employees to help them with their publishing business.

But by the end of third year of operation, Global Green Books started experiencing critical problems. They were:
- unable to leverage all the new employees effectively
- unable to deliver eBooks to their customers on schedule
- unable to provide quality texts—time and money was being spent fixing defects in their products
- unable to control costs—their business was not profitable in the third year.

Global Green Books saw a significant rise in issues, a lot of unpleasant "surprises" were cropping up; business was down as new resources were hired, also some of the projects were poorly estimated. The local university was unhappy as their eBook products reached campus late for use by professors and student. In some cases, the books were a week or two late. Since the courses must start on schedule and students need their books at the beginning of their courses, the new lucrative college customer was unhappy.

One of the new part-time employees hired by Jim and Brad, Samantha, had taken a project management course at college. Samantha was excited about the discipline of project management and had intentionally selected a job with Global Green Books Publishing as she saw an opportunity to polish her project management skills.

One fine day, Jim invited Samantha, for a lunch meeting. He was aware that Samantha was familiar with project management, and wanted to hear what she had to say about the problems he and Brad were facing. Over lunch he questioned why their small business which had operated and implemented projects so successfully over the first two years was being challenged significantly now. He specifically listed the problems they were facing and asked for input to solve them.

Samantha asked for more time to research all the issues but noted that Global Green Books, while being innovative, completed projects without a roadmap or a project plan and lacked a disciplined approach to project management. She noted that Jim and Brad did not use any project software for scheduling and they did not use tools or techniques to estimate, budget or to communicate with stakeholders. Finally, they had no processes in place to manage project risks and quality.

Impressed with this and other conversations, Jim King asked Samantha if she would consider joining them as a project associate or project manager on a full-time basis to help them introduce project management practices and help them tide over their current crisis.

Samantha accepted the offer! She has several key skills—she is an excellent communicator with very good interpersonal skills and detail-oriented. Within the first three months in her new role as PM, she introduced formal project management processes, created a PM manual and trained the employees to get the work done well.

Within nine months Samantha had fully turned things around. Due to proactive risk analysis and risk response planning, surprises and issues reduced. Communication with stakeholders was enhanced.

Brad and Jim noted that the company was delivering projects on schedule, the quality processes worked—and customers were happy with the products!

Comment on the following aspects of the case study:

(a) Why did Global Green Books Publishing struggle?
(b) What were the specific Project Management solutions that were introduced by Samantha that worked?

OR

Q.5   **Discuss the case study with answers of following questions.**   **14**

ALUMNI DATABASE

The Dean - Mr. Stephen Jacob of the "GenX" business school wishes to create a "family" consisting of its graduates and corporations that have been staunch supporters of the School of Management. Finding the existing database inadequate in terms of providing him with the information he needs to achieve his goal, he wishes to develop a new alumni database for the college. He wants the new database to capture all relevant information on alumni of the college and the corporate supporters of the college. To build a long-term relationship with alumni, he wishes to keep track of all alumni from each functional area (e.g., Acctg, Fin, Mkt, etc.) of the college, where they work (or have worked in the past), and any donations that they have made to the college. Similarly, for corporate supporters, the database must capture all relevant information on donations made by each corporation.

Upon further interviews with the Dean, he has indicated the following specific requirements for designing of database:

- A report that displays alumni information for a specified area for a particular year (e.g., 2009 graduates). The report should list, for the specified area and year of graduation, each alumnus's name, e-mail address, the degree earned (e.g., BBA, PGDBM, MBA, Ph.D., etc.), work phone number, and home phone number. Note that a similar report could be required for any area and any graduating year.
- For a specified city (e.g., Houston), a report listing all alumni who live in that city. The report will display the name of the city, and for each alumnus in that city, their name, home address, email address, work phone, and home phone.
- A report listing all corporate donors who have donated a total amount greater than $25,000. The report will be sorted in descending order of the total donated amount.
- A report that displays all donations made to a particular G/L (General Ledger) account. The ID of the donor, as well as the date and amount of the donation must be displayed.
- A report listing all alumni working for a particular company (e.g., NORTEL). This report must also display the date an individual joined the company, as well as, their job title and salary.
- A report that displays the employment history for a particular alumnus. The report must show, for each employer that alumnus has worked for, the employer name, the most recent job title the alumnus had with that employer company (e.g., Vice-President), the date the alumnus joined the company, and the date the alumnus left the company (if applicable).

Comment on the following aspects of the case study:

(a) According to you what benefits business school will get after implementation of new improved version of "Alumni Database"?
(b) What security factors you will consider while designing & implementing this kind of database?

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