

1M205

Roll No. _____

Total No. of Pages: 8

1M205

M.B.A. I - Sem. (Main / Back) Exam., - 2023
M – 105 Information Technology for Managers

Time: 3 Hours

Maximum Marks: 70

Instructions to Candidates:

- (i) *The question paper is divided in three parts.*
- (ii) *Part A contains 10 questions which are compulsory. Part B contains eight questions out of which five are to be attempted. Part C contains one question which is compulsory.*

1. NIL

2. NIL

PART – A

[10×2=20]

All questions are compulsory

- Q.1 Differentiate between Internet, Intranet and Extranet.
- Q.2 What is the significance of Information System in a Business Organization?
- Q.3 What is the significance of Training and Maintenance in SDLC?
- Q.4 What do you understand by Data Warehouse?
- Q.5 What is m-Commerce and what are its benefits?
- Q.6 What is the significance of CRM in an organization?
- Q.7 Write short note on Business Ethics.
- Q.8 What is the impact of internet revolution on business?
- Q.9 Explain Transaction Processing System.
- Q.10 How is e-Business different from e-Commerce?

PART – B

[5x]

Attempt any five questions

- Q.1 How is Cloud Computing accelerating Businesses?
- Q.2 Explain the following information systems –
- (i) Management Information Systems
 - (ii) Decision Support Systems
- Q.3 What is Feasibility Analysis? Explain the various types of Feasibility Analysis.
- Q.4 How does Data Mining and Data Warehouse help in Decision Support System?
- Q.5 What do you understand e-payments? What are the various modes of e-payments?
- Q.6 What do you understand by Supply Chain Management? Elaborate its various components.
- Q.7 Elaborate on Security and Ethical Challenges of Information Technology.
- Q.8 What are the objectives of SDLC? Explain the investigation and documentation phase of SDLC.

PART – C

[20]

(Compulsory)

Q.1 With the advent of Science and Technology, technological innovations have become a pre-requisite to achieve operational and strategic excellence. Organizations by using state-of-the-art systems are striving for their best to achieve sustainable and long-term competitive advantage. It has become sine qua non to use modern tools for the effective achievement of goals and objectives. Its importance can also be observed from the increased spending on Research & Development in order to pace up with today's dynamic business environment.

Walmart, founded by Sam Walton in 1962, is the world's largest retailer that employs about 2.1 million associates worldwide, in more than 8,400 stores, including 8, discount stores, 3,100 combination discount and grocery stores. Walmart is serving its customers and members more than 200 million times per week at more than 8,613 retail units under 55 different banners in 15 countries. Walmart has ranked first among retailers in Fortune Magazine's 2010, most admired companies survey with fiscal year 2010 sales of \$405 billion. Sam Walton's belief was to build an empire by providing value to its customers and empowering employees,

also known as associates. The way the Walmart operates is so fascinating and impressive that Jack Welch, CEO of General Electric once said:

“Many of our management teams spent time there observing the speed, the bias for action, the utter customer fixation that drives Walmart.” The use

of high-tech information technology has always been an essential ingredient for Walmart’s growth.

Since its inception, it has used the IT systems well enough for the inventory, administrative, customers and suppliers management.

Walmart’s investment in technology started with the computerized accounting systems and since then the continuous adoption of latest technologies has made Walmart a market leader in the whole retail industry. Walmart developed a well-equipped computerized Point of Sale

(PoS) system capable of identifying each unit sold, creation of accurate sales receipt and storing all the information item-by-item for sales analysis and inventory reordering purposes. It helped company to avoid overstocking of merchandize through effective information usage and also assisted them in investing in only those merchandize that were profitable. It has also helped them figure out best selling products and prospective products that customers want.

Analysts say that it is Walmart's point of sale system that has helped them achieve the world's largest market share and revenues in retail industry. Walmart, in 2004, was the first in retail industry to adopt Electronic Radio Frequency Identification (RFID) tags for Inventory Distribution Management. RFID technology, which is still being used, helps them keep track of inventory movement across its supply chain. Walmart was trailing Kmart in 1980's but with the adoption of latest technologies, it has now become the trendsetter in retail industry all over the world. Walmart is currently working on a project to make best out of wireless technology. In near future, they have plans to develop a remote system that would allow customers to just walk into their store and use their own devices (Phones or PDA's) to get whatever they want. i.e. They might go online to their website, while at the store, and find things for themselves or just compare the products' prices etc. Customer service, best shopping environment and experience, one-stop shopping, best value products, customer convenience of online shopping, good customer relations are the blessings that Walmart provides using cutting edge technology.

Latest wireless system at their stores, online web-retailing, vast width and hierarchy of product items and stores at multiple remote sites are the

benefits customers of Walmart cherish. Walmart is considered to be a trend setter in retail industry and it's all due to its inclination towards achieving impossible through modern technology. For example, Walmart once tried to develop three experimental stores in McKinney, Aurora and Las Vegas that were equipped with latest technologies or concepts like wind turbines, photovoltaic solar panels, bio-fuel-capable boilers and water-cooled refrigerators. Irrespective of the criticism it had on environmental issues, Walmart's initiative was considered to be a positive step towards change and innovation and it provided them with an opportunity to become the biggest seller of organic milk and the biggest buyer of organic cotton in the world, as well as reducing packaging and energy costs. It has been quoted in 2006's annual report of Walmart that in order to compete against upscale and appealing store, such as 'Target', they have launched a new supercenter concept in Plano, Texas. The new store had wood floors, wider aisles, a sushi bar, a coffee shop with free Wi-Fi internet access and more expensive beers, wines and other electronics goods. By using advance forecasting techniques and integrating different technologies, Walmart is

planning to deploy simulation software that would help them simulate business events that are yet to happen. Walmart has got a strategic plan of introducing a concept of self-service technology, aimed at eliminating paper and paper forms, will be provided to their associates, prospective associates, customers and members. It was said by Kevin turner, CEO of Walmart's subsidiary corporation, in his interview with 'CIO' personnel that "having an associate portal and devices on our sales floors will let customers and members get product information and let us do computer assisted selling". Walmart has been outstanding in its investments in information technology from all prospects. IT systems at Walmart allow them to reduce transactional as well as operational costs at their distribution centers and it has also helped them to support Walmart's long-term strategy of owning the distribution centers and maintaining long-term relationships with their suppliers. Also, improvement in productivity due to IT systems is dramatic at Walmart. It has helped them offer products at such a nominal cost that a small town merchant is unable to provide and this is remarkable achievement of Walmart. It has become a sustainable

competitive advantage for them over their competitors and a reason of their growth and profitability. We are aware of a fact that every benefit is accompanied with some problem but Walmart has successfully defied its weaknesses and have used its strength well to take advantage from the prospective opportunities and avoiding possible threats.

- (i) How information technology and information system may be used to help the company operate and achieve its objective
 - (ii) Discuss the challenges faced by the CIO. Which are the most important and why?
 - (iii) What role does Information Technology play in the business? How is it helping Walmart refine its business strategies?
 - (iv) Summarize the main purposes of Information Systems in an organization.
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1M208

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Total No. of Pages: **4**

1M208

M.B.A. I - Sem. (Main / Back) Exam., - 2023

M-108 Business Statistics and Analytics for Decision Making

Time: 3 Hours

Maximum Marks: 70

Instructions to Candidates:

- (i) *The question paper is divided in three parts.*
- (ii) *Part A contains 10 questions which are compulsory. Part B contains eight questions out of which five are to be attempted. Part C contains one question which is compulsory.*

1. NIL

2. NIL

PART – A

[10×2=20]

All questions are compulsory

Q.1 Differential between scalar matrix, diagonal matrix and identity matrix.

Q.2 Find the determinant of the matrix given below –

$$\begin{vmatrix} -19 & -21 \\ 7 & 6 \end{vmatrix}$$

Q.3 Calculate median from the following distribution –

Marks	40-60	60-80	80-100	100-120
No. of Students	50	10	12	8

Q.4 Given that Variance of $x = 144$, standard deviation of $y = 10$, $r = 0.8$. Find its co-variance.

Q.5

Coefficient of correlation between the ages of husbands and wives of a group is 0.8. Average age of husbands was 25 years and of wives was 22 years. Find with the help of regression equation what will be the probable age of husband if wife's age is 12 years.

Q.6 What do you understand by index numbers? What is importance of index numbers for the study of economics and business?

Q.7 From a pack of 52 card, 3 black cards were lost. If one card is drawn randomly from remaining cards, what is the probability that it is black in a colour?

Q.8 Find the compound interest (CI) on ₹ 12,600 for two years at 10% per annum compounded annually.

Q.9 If $\begin{bmatrix} 4+p & p+q \\ p+q+r & q+q \end{bmatrix} = \begin{bmatrix} 14 & \boxed{} \\ 0 & -11 \end{bmatrix}$

Find p, q, r and value in the blank box.

Q.10 A coin is tossed four times. What is the probability that all the four times head appears.

PART – B

[5×6=30]

Attempt any five questions

Q.1 Solve the following system of simultaneous linear equations using matrices -

$$3x + y - 2z = 2 \quad 2, 2, 2$$

$$x - 2y + z = 3 \quad -2, 2, 2$$

$$2x - y - 3z = 3 \quad 0$$

Q.2 (a) If $A = \begin{bmatrix} 1 & 6 \\ 1 & 5 \end{bmatrix}$. Is $A + A^T$ symmetric?

(b) If $\begin{bmatrix} 2 & 3 \\ 7 & 0 \end{bmatrix} = a \begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix} + b \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix} + c \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix} + d \begin{bmatrix} 0 & 0 \\ 0 & 1 \end{bmatrix}$, Find the value of a, b, c and d.

$$x = A^{-1} \cdot b$$

$$x = V \cdot A^{-1} \cdot b$$

Q.3 Find from the following data, which company's lamps are more durable?

Life (in hours)	500-700	700-900	900-1100	1100-1300	1300-1500
No. of Lamps (company A)	5	11	26	10	8
No. of Lamps (company B)	4	30	12	8	6

$\bar{x} = 20$

Q.4 Calculate coefficient of correlation between age and playing habits from the following data -

Age	15	16	17	18	19	20
No. of students	250	200	150	120	100	80
Regular players	200	150	90	48	30	12

$r = 0.99$

Q.5 Find the value of \bar{x} and \bar{y} and ' σ_x ' (standard deviation of 'x' from the following data) -

$$8x - 10y = -66, 40x - 18y = 214$$

Also find correlation coefficient between two variables.

Q.6 From the following data, construct Fisher's Ideal Index number -

Commodities	Base year (2004)		Current Year (2005)	
	Price per unit (₹)	Expenditure (in ₹)	Price	Expenditure
x	2	40	5	75
y	4	16	8	40
z	1	10	2	24
w	5	25	10	60

21.30%

Q.7 Three urns are there containing white and black balls; first urn has 3 white and 2 black balls, second urn has 2 white and 3 black balls and third urn has 4 white and 1 black ball. Without any biasing one urn is chosen and from that one ball is chosen randomly which was white. What is the probability that it came from the third urn? 0.44

Q.8 Write short notes on -

- (a) Break Even Analysis
- (b) Time Value of Money
- (c) Sinking Funds
- (d) Amortization

PART - C

[20]

(Compulsory)

Q.1 (a) The customer accounts at a certain departmental store have an average balance of ₹ 480 and a standard deviation of ₹ 160. Assuming that the account balances are normally distribute -

- (i) What proportion of the account is over ₹ 600?
- (ii) What proportion of the accounts is between ₹ 400 and ₹ 600?
- (iii) What proportion of the accounts is between ₹ 240 and ₹ 360?

(b) Calculate the Spearman's Rank Correlation Coefficient for the following data and interpret the result :

x	<u>35</u>	<u>54</u>	<u>80</u>	<u>95</u>	<u>73</u>	<u>73</u>	<u>35</u>	<u>91</u>	<u>83</u>	<u>81</u>
		<u>8</u>	<u>5</u>	<u>1</u>	<u>9</u>	<u>9</u>		<u>2</u>	<u>3</u>	<u>4</u>
y	<u>40</u>	<u>60</u>	<u>75</u>	<u>90</u>	<u>70</u>	<u>75</u>	<u>38</u>	<u>95</u>	<u>75</u>	<u>71</u>
	<u>9</u>	<u>8</u>	<u>3</u>	<u>2</u>	<u>7</u>	<u>4</u>	<u>10</u>	<u>1</u>	<u>4</u>	<u>6</u>

0.891

$$C(2N-1)/2 (m^2 - m) +$$