

2016

(April)

COMMERCE

(Honours)

(Fundamental Mathematics)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer any **five** questions

1. (a) If $A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$, then show that $A - A^T$ is a

skew-symmetric matrix. 4

- (b) If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$, then show that

$$A^2 - 5A + 7I_2 = 0. \quad 4$$

- (c) Using elementary row operations, find the inverse of the following matrix : 7

$$\begin{bmatrix} 2 & 3 & 1 \\ 3 & 4 & 1 \\ 3 & 7 & 2 \end{bmatrix}$$

(2)

(a) Find the domain and range of the following functions : $3+3=6$

(i) $f(x) = \frac{3+2x}{x}$ (ii) $f(x) = \log(1+x)$

(b) A shopkeeper selling pencils charges ₹ 5 per pencil for purchase of 7 or less pencils and charges ₹ 4 per pencil for purchase of more than 7 pencils. Find the cost function $C(x)$, where $C(x)$ represents cost of buying x pencils. 4

(c) Suppose a variable y changes linearly with respect to x . If $y = 5$, when $x = 1$ and $y = 9$, when $x = 3$, then express y as a linear function of x . 5

(a) Evaluate the following limits (any two) : $3 \times 2 = 6$

(i) $\lim_{x \rightarrow 3} \frac{x^2 - 5x + 6}{x - 3}$ (ii) $\lim_{x \rightarrow \infty} \frac{x^2 + 3x - 7}{3x^2 + 4x - 2}$

(iii) $\lim_{x \rightarrow 5} \frac{\sqrt{x+9} - 2}{x - 5}$

(b) Show that the following function is continuous at $x = 3$: 6

$$f(x) = \begin{cases} \frac{3x+7}{2}, & x < 3 \\ 8, & x = 3 \\ \frac{8(x+2)}{5}, & x > 3 \end{cases}$$

(Continued)

(3)

(c) Show that the following limit does not exist : 3

$$\lim_{x \rightarrow 2} \frac{|x-2|}{x-2}$$

4. (a) Find the respective first-order derivatives of the following functions (any two) : $4 \times 2 = 8$

(i) $f(x) = \frac{x^2 + 2}{7x + 1}$

(ii) $f(x) = e^{x^5 + 2x^2 + 7}$

(iii) $f(x) = \sqrt{5x^3 + e^{2x}}$

(b) The demand function is given by $x = 10 + 2p - p^2$, where p = price per unit output and x = output. Find the point elasticity of demand at the point where $p = 3$. Is the demand elastic at the given point? $6 + 1 = 7$

5. (a) The cost and demand functions are $C = x^2 + x + 6$ and $p = 13 - 2x$ respectively, where C = cost, x = output and p = price per unit output. Find the profit function and the values of p and x which maximize the profit. $1 + 8 = 9$

D16/1480

(Turn Over)

(b) The demand function is given by $p = 180 - 3x$, where p = price per unit output and x = output. Find the revenue function and hence, find the output which maximizes the revenue. 1+5=6

6. (a) Find the effective rate of interest equivalent to the nominal rate of 11% compounded quarterly. 3

(b) How long does it take for a principal to triple in value if money is worth 15% compounded annually? 5

(c) A machine, the life of which is estimated to be 12 years, costs ₹ 45,000. If it is sold as scrap for ₹ 5,500, then find the rate of depreciation (using reducing balance method of depreciation). 7

7. (a) A person borrows ₹ 50,000 from a bank which charges interest of 12% per annum. He is required to pay in 24 monthly payment beginning at the end of the first month. What is the monthly payment required? 8

(b) Find the present value of a sequence of annual payments of ₹ 3,000 each, the first being made at the end of 4 years and the last at the end of 11 years, if the money is worth 9% effective. 7

2016

(April)

COMMERCE

(Honours)

(Indian Financial System)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Describe the structure of Indian financial system and highlight the changes in the structure in the post-reform period. 10+5=15

Or

Explain the role of Indian financial system in the economic development of the country. 15

2. Define money market. List out various money market instruments and discuss the features of any two instruments of money market.

3+2+10=15

(2) (vi) (Syllabus-2015)

Or

- (a) How does call money market serve the needs of commercial banks in India? 7
- (b) Highlight the major reforms undertaken to develop the money market in India. 8

3. What are the similarities and dissimilarities between new issue market and secondary market? Do they influence each other? Explain. 5+5+5=15

Or

- (a) What is capital market? Explain the features of capital market in India. 2+8=10
- (b) Briefly explain the trading and settlement mechanism of a stock exchange. 5

4. (a) Describe the structure of commercial banks in India. 10
- (b) Distinguish between open-ended mutual fund schemes and close-ended mutual fund schemes. 5

D16/1482

(Continued)

(3)

Or

- (a) Describe the changing role of development financial institutions in the post-reform period. 10
- (b) Distinguish between banking and non-banking financial companies. 5

5. Explain the important functions of Reserve Bank of India. 15

Or

- Highlight the role of SEBI in regulating capital market. 15

D16-3000/1482

2/H-76 (vi) (Syllabus-2015)

2016

(April)

COMMERCE

(Honours)

(Information Technology in Business)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. (a) What is an Information System?
Discuss different types of information system. 3+4=7

(b) Discuss system software with appropriate examples. 4

(c) What is a firmware? 4

Or

(a) Write short notes on interpreter and compiler. 7

(b) What is an assembler? 4

(c) Write the difference between virus and worm. 4

2. (a) What is an operating system (OS)?
Discuss any three services performed by the OS. 2+5=7

(b) What are the two types of network configuration possible in a network? Discuss any two types of topology to design a network. 4+4=8

Or

(a) What is a database management system? Discuss the main benefits of database management system. 3+6=9

(b) Discuss the role of database administrator. 6

3. Consider the following data as shown in spreadsheet :

	A	B	C	D	E	F	G	H	I
1	NAME	ROLL	COMM	ECO	ENG	TOTAL	PERCENTAGE	GRADE	PASS/FAIL
2	XYZ	1	15	16	23				
3	ABC	1	23	45	45				
4	ERT	1	56	78	23				
5	SSS	1	80	89	78				
6	FGH	1	45	12	19				
7									
8									
9									
10									

Write down the formulas for calculating the following : 2+3+5+3+2=15

(a) The total marks of each student

(b) The percentage of marks of each student

(c) The grades of each student
For calculating grades, assume the following :

(i) If percentage < 40, then Grade "F"

(ii) If percentage ≥ 40 but < 60, then Grade "D"

(iii) If percentage ≥ 60 but < 70, then Grade "C"

(iv) If percentage ≥ 70 but < 80, then Grade "B"

(v) If percentage ≥ 80, then Grade "A"

(d) If percentage < 40, then to print "FAIL" otherwise "PASS" in the PASS/FAIL column

(e) The number of students, secured "A" Grade

Or

(a) Explain the terms 'absolute reference' and 'relative reference' with examples. 3+3=6

(b) Explain the following functions of Excel : 2+2=4

(i) NOW()

(ii) SUMIF()

(4)

(c) Describe the usefulness of the following two types of chart : $2\frac{1}{2}+2\frac{1}{2}=5$

(i) Bar chart

(ii) Column chart

4. (a) Discuss briefly different Internet Protocols. 10
- (b) Discuss the usage of Internet to society. 5

Or

(a) Discuss briefly different ways to connect computer with the Internet. 6

(b) Define the following terms : $3 \times 3 = 9$

(i) World Wide Web

(ii) Search Engine

(iii) Gateway

5. (a) Describe the following E-commerce business models : 10

(i) Storefront model

(ii) Service provider model

(iii) Subscription-based access model

(iv) Broker model

(v) Portal site model

(b) Describe the pros and cons of online shopping. 5

D16/1481

(Continued)

(5)

Or

- (a) Describe different ways of product promotion through a Web site. 4
- (b) Discuss five guidelines for a merchant to attract customers to his Web site. 5
- (c) State the benefits of credit card from the viewpoint of the seller and the banker. 6

D16—3000/1481

2/H-76 (v) (b) (Syllabus-2015)

2/H-76 (iv) (Syllabus-2015)

2016

(April)

COMMERCE

(Honours)

(Business Economics)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Define business economics. Explain the nature and scope of business economics.

3+12=15

Or

What are the goals of a business firm? Explain the role and responsibility of a managerial economist in the decision-making process of a business firm. 5+10=15

2. State and explain the law of demand with its inherent assumptions. Differentiate between change in quantity demanded and change in demand. Why does the demand curve slope downward?

5+5+5=15

Or

What is price elasticity of demand? Explain briefly the various factors that determine price elasticity of demand. How is the price elasticity of demand measured on an arc of a demand curve? 3+6+6=15

3. Explain the law of variable proportion. In which stage of production does a rational producer produce and why? 10+5=15

Or

What is an isoquant? Prove that—

- (a) two isoquants can never intersect each other;
- (b) an isoquant is always convex to the point of origin. 3+6+6=15

4. Explain diagrammatically the various short-run and long-run cost concepts that are commonly used in the theory of price and output determination of a business firm. 15

Or

Explain the concepts of engineering cost curve. How do the various concepts of cost help in business decision making? 10+5=15

5. Discuss diagrammatically the short-run price and output determination of firm and industry under perfect competition. 15

Or

Differentiate between the concepts of firm and industry. Explain the equilibrium of a firm under monopolistic competition. 3+12=15

2/H-76 (vi) (Syllabus-2015)

2 0 1 7

(April)

COMMERCE

(Honours)

(Indian Financial System)

(BC-204)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. What is meant by financial system? Discuss the relationship between financial system and overall economic development. 3+12=15

Or

What are the constituents of a financial system? Explain how they are interrelated.

10+5=15

2. (a) Describe the principal features of the Indian money market. 10
- (b) What are Collateralized Borrowing and Lending Obligations (CBLO)? 5

Or

- (a) What are Commercial Papers (CP)?
State the procedure for issuing CP. 3+7=10
- (b) What are money market mutual funds? 5
3. (a) Explain various types of debenture that
have emerged in India in the last two
decades. 12
- (b) What is rolling settlement? 3
- Or
- (a) What are financial derivatives?
Distinguish between futures and
forward contracts. 3+4=7
- (b) Highlight the major reforms undertaken
to develop the capital market in India in
the last two decades. 8
4. (a) Explain the primary and secondary
functions of commercial banks. 5+5=10
- (b) What is a payment bank? 5
- Or
- (a) What are the functions of an Insurance
organization? 7
- (b) How does mutual fund companies
operate in India? Explain. 8

5. Discuss various tools used by the Reserve
Bank of India to regulate the flow of credit in
the country. 15

Or

- (a) State the powers and functions of the
Insurance Regulatory and Development
Authority (IRDA). 10
- (b) What are the steps taken by IRDA to
protect policy holders' interest? 5

2/H-76 (v) (b) (Syllabus-2015)

2017

(April)

COMMERCE

(Honours)

(Information Technology in Business)

(BC-203)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) What is the role of computer in information technology? What are the limitations of information technology? 4+3=7
- (b) Differentiate between Microcomputer and Supercomputer. 4
- (c) What are the characteristics of computer? 4
- Or*
- (a) Write notes on primary memory and firmware. 4+3=7
- (b) Differentiate between the following : 4+4=8
- (i) System Software and Application Software
- (ii) Linkers and Loaders

(2)

2. (a) What are the functions of operating systems? Briefly discuss on different types of operating systems. 4+3=7
- (b) What is Network? Discuss on different types of network topologies. 2+6=8

Or

- (a) Write notes on LAN (Local Area Network) and WAN (Wide Area Network). 3+3=6
- (b) What are the roles and responsibilities of a database administrator? 5
- (c) What is device driver? What are the functions of a device driver? 2+2=4

3. Consider the following data as shown in a spreadsheet :

	A	B	C	D	E	F	G	H	I
1	Sl. No.	Emp. Name	Basic Salary	DA	HRA	Medical Allowance	Gross	EPF	Net Salary
2	1	AAAA	12,250						
3	2	BBBB	18,950						
4	3	XXXX	22,150						
5	4	YYYY	10,750						
6	5	MMMM	16,550						
7	6	KKKK	14,450						
8									

Write down the formulas for calculating the following in a spreadsheet :

- (a) DA—75% of Basic Salary 2

D72/1388

(Continued)

(3)

- (b) HRA will be calculated as follows : 2+2=4
- (i) Basic Salary up to ₹ 12,000, HRA will be 25% of Basic Salary
- (ii) Basic Salary more than ₹ 12,000, HRA will be 40% of Basic Salary

- (c) Medical allowance—20% of Basic Salary 2
- (d) Gross salary of each employee 2
- (e) EPF will be deducted 12% of Basic Salary subject to a maximum of ₹ 15,000 2
- (f) Net salary of each employee 3

Or

- (a) What is the usefulness of chart in a spreadsheet? Describe any one type of chart with an example. 3+3=6
- (b) Explain the following functions of Excel : 2+2=4
- (i) countif()
- (ii) int()
- (c) What is Advanced Filter? Explain the steps involved in filtering the data with suitable example. 2+3=5

D72/1388

(Turn Over)

4. (a) Define Internet. What are the differences between Internet and Intranet? 2+5=7
- (b) What is meant by Web browser? Give examples of at least three Web browsers. How do they differ from Web server? 3+2+3=8

Or

- (a) Define the following terms : 2½×4=10
- (i) URL
 - (ii) Modem
 - (iii) WWW
 - (iv) Internet Protocol
- (b) What is E-mail header? What does it contain? Explain. 2+3=5

5. (a) What is E-commerce? State the advantages of E-commerce over traditional commerce. 2+4=6
- (b) Briefly describe the different modes of E-payment in E-commerce. 5
- (c) Write a short note on E-marketing. 4

Or

- (a) Discuss the different business models for E-commerce. 10
- (b) Write a short note on E-advertising. 5

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2/H-76 (iv) (Syllabus-2015)

2018

(April)

COMMERCE

(Honours)

(Business Economics)

(BC-201)

Marks : 75

Time : 3 hours

**The figures in the margin indicate full marks
for the questions**

1. (a) Bring out the relationship between Business Economics with other allied subjects. 8
- (b) Write a note on the role and responsibilities of a managerial economist. 3+4=7

Or

Define Business Economics. What are the goals of a business firm? Discuss the scope of Business Economics. 2+5+8=15

2. What do you mean by consumer's equilibrium? Explain how a consumer attains his equilibrium in terms of the cardinal utility analysis of demand. 3+12=15

Or

What is demand forecasting? Why is demand forecasting important for the management of business firms? 5+10=15

3. State and explain the law of variable proportion with suitable diagram. 15

Or

What do you mean by production function? Distinguish between isoquants and isocost lines. Discuss the properties of isoquants. 2+5+8=15

4. Explain the concepts of TFC, TVC and TC. How are they related to each other? Illustrate them through curves. Is the distinction between fixed cost and variable cost relevant in the long run? 3+3+6+3=15

Or

Give reasons for the U-shape of the long-run average cost curves. Why is the long-run average cost curve usually called 'planning curve'? 7+8=15

5. State the features of a perfectly competitive market. Explain how the equilibrium price is determined under such a market. 5+10=15

Or

What is product differentiation? What role does it play in the determination of price and output under monopolistic competition? 7+8=15

2/H-76 (v) (a) (Syllabus-2015)

2018

(April)

COMMERCE

(Honours)

(**Fundamental Mathematics**)

(BC-202)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer any **five** questions

1. (a) Show that

$$\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix} = -(a^3 + b^3 + c^3 - 3abc) \quad 5$$

(b) If

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & -2 & 1 \\ 4 & 2 & 1 \end{bmatrix}$$

compute $A^3 - 23A - 40I$, where I is the identity matrix of order 3. 5

(c) Firms A, B and C supplied 40, 35 and 25 truckloads of stones, and 10, 5 and 8 truckloads of sands to a contractor. If the costs of stones and sand are ₹ 1,200 and ₹ 500 per truck respectively, find the amount paid by the contractor to each of these firms, using matrix method. 5

2. (a) Define a polynomial function. Under what condition, a polynomial function reduces to a quadratic function? 2+1=3

(b) Find the domain and the range of (i) $\sqrt{x^2 - 4}$ and (ii) $\frac{1}{|x| - x}$. 3+3=6

(c) If $f(x) = \log(x + \sqrt{1+x^2})$, show that $f(-x) = -f(x)$ 3

(d) A truck carrying bricks can travel 100 km/h if it carries less than 120 bricks and travels at a speed of 80 km/h, if it carries 120 or more bricks but less than or equal to 150 bricks. Again, if the truck is overloaded with more than 150 bricks, its speed reduces to 60 km/h. If x is the number of bricks, find the speed function $S(x)$ of the truck. 3

3. (a) Evaluate the following limits : 4+3=7

(i) $\lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{x}$

(ii) $\lim_{x \rightarrow 0} \frac{(1+x)^2 - (1-x)^2}{2x}$

(b) Find the value of p for which

$$f(x) = \begin{cases} p, & \text{if } x = 5 \\ \frac{x^2 - 5^2}{x - 5}, & \text{if } x \neq 5 \end{cases}$$

is continuous at $x = 5$. 4

(4)

(c) Draw the graph of the following function : 4

$$f(x) = \begin{cases} \frac{x}{|x|}, & \text{if } x < 0 \\ 0, & \text{if } x = 0 \\ \frac{|x|}{x}, & \text{if } x > 0 \end{cases}$$

4. (a) Find the first-order derivative of the following functions (any two) : $4 \times 2 = 8$

(i) $y = x^{\log_e x}$

(ii) $y = \frac{1 - \sqrt{x}}{1 + \sqrt{x}}$

(iii) $y = (x^2 + 2)^5 (3x^4 - 5)^4$

(b) A TV company has 1000 subscribers who are each paying ₹ 100 per month. The company proposes to increase the monthly subscription and it is believed that for every increase of ₹ 1, five subscribers will discontinue the service. Find what increase in the monthly subscription will yield maximum revenue and what will be the revenue. 7

8D/1728

(Continued)

(5)

5. (a) A steel plant produces x tons of steel per week at a total cost of

$$₹ \left(\frac{1}{3} x^3 - 5x^2 + \frac{19}{4} x + 35 \right)$$

Find the output level at which the marginal cost attains its minimum. 5

(b) If the demand function is $p = 4 - 5x^2$, find what value of x , the elasticity of demand will be unitary, where p is price per unit output and x is the output. 4

(c) If the circular waves in a tank expand so that the circumference increases at a rate of 3 cm/s, find the rate at which the radius of the circle increases. 3

(d) For which values of x , the function $x + \frac{1}{x}$ has a maximum and a minimum value? 3

8D/1728

(Turn Over)

(6)

6. (a) A man wants to invest ₹ 5,000 for 4 years. He may invest the amount at 10% per annum compound interest accruing at the end of each quarter of the year or he may invest it at 10.5% per annum compound interest accruing at the end of each year. Which investment will give him better return? 5
- (b) A machine depreciated in value each year at 10% of its previous value and at the end of the fourth year, its value is ₹ 1,31,220. Find its original value. 5
- (c) Find the amount of an annuity consisting of payments of ₹ 800 at the end of every 3 months for 3 years at the rate of 8% compounded quarterly. 5
7. (a) If your expected rate of return on investment is 12% per annum and you find a 10% debenture in the market at ₹ 850, would you like to buy the debenture? Given that the maturity period of the debenture left is 4 years and the maturity value is ₹ 1,000. 5

8D/1728

(Continued)

(7)

- (b) How long will it take for ₹ 10,000 to amount to ₹ 12,000 at 9% interest rate converted monthly? 5
- (c) A bond presently sells at ₹ 109 which carries a coupon rate of 8 percent per annum. If your expected rate of return is 10 percent, would you like to purchase the bond? 5

8D—3400/1728 2/H-76 (v) (a) (Syllabus-2015)

2/H-76 (vi) (Syllabus-2015)

2018

(April)

COMMERCE

(Honours)

(Indian Financial System)

(BC-204)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

- 1.** What is meant by financial system? What are its constituents? Discuss the role of Indian financial system in economic development.

3+6+6=15

Or

Discuss the various indicators of financial development.

15

(2)

2. (a) Define money market. Specify the main participants in Indian money market. 2+3=5

(b) Describe the defects in Indian money market. 10

Or

(a) Explain the importance of call and notice money in commercial banking operations. 5

(b) Explain the important features of the Indian TB market. 10

3. What is capital market? List down the major reforms in the primary and secondary market. 3+6+6=15

Or

Discuss the innovative instruments that have been introduced in the capital market in the post-reform period. 15

4. Write notes on the following : 5×3=15

(a) Regional Rural Banks

(b) NABARD

(c) Mutual Funds

8D/1730

(Continued)

(3)

Or

What is meant by non-banking finance companies? How do NBFCs contribute to the economic development of our country? 3+12=15

5. What are the objectives of the Reserve Bank of India? Describe the functions of RBI. 5+10=15

Or

(a) State the powers and functions of the Securities and Exchange Board of India. 10

(b) Write a brief note on Insurance Regulatory and Development Authority (IRDA). 5

8D—3400/1730

2/H-76 (vi) (Syllabus-2015)

2/H-76 (v) (b) (Syllabus-2015)

2018

(April)

COMMERCE

(Honours)

(Information Technology in Business)

(BC-203)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

1.	(a)	Define Information Technology. Discuss on the limitations of Information Technology in brief.	2+3=5
	(b)	Explain the role of Information Technology in today's business.	5
	(c)	Discuss on various types of memories used in a computer system.	5

Or

(a) What is the importance of hardware, firmware and software in a computer system? Explain. 3+3+3=9

(b) What do you mean by information system? Mention the important components of an information system. 2+4=6

2. (a) What is the role of operating system in a computer system? Mention the major types of operating systems available. 4+3=7
- (b) What are the advantages and disadvantages of maintaining data in a file and a database? 4+4=8
- Or
- (a) Briefly explain the major functions of an operating system. 6
- (b) Discuss on different network topologies. 9
3. Consider the following data as shown in a spreadsheet :

A	B	C	D	E	F	G	H	I	J
Sl. No.	Name	S ₁	S ₂	S ₃	Q ₁	Q ₂	Q ₃	Att.	Total
1	A	25	05	30	8	5	8	0	
2	B	20	10	20	7	5	8	6	
3	C	15	15	10	6	7	4	8	
4	D	10	20	0	3	8	5	10	
5	E	05	25	15	2	5	6	10	

- S → Sessional
 S₁ → Sessional-1
 S₂ → Sessional-2
 S₃ → Sessional-3
 Q → Quiz
 Q₁ → Quiz-1
 Q₂ → Quiz-2
 Q₃ → Quiz-3
 Att. → Attendance

Marks obtained by a group of students in Sessional test, Quiz test and Attendance are shown in the above format.

- (a) Find out the best two Sessional marks out of the three available. 2
- (b) Calculate the average of Quiz marks. 2
- (c) Calculate the total marks acquired by a student considering average of the best two sessionals, average quiz and attendance marks. The marks shall be presented out of 100. 3
- (d) Assign grades to students using the following rules : 4
- | Marks | Grade |
|----------------------|-------------|
| $80 \leq M \leq 100$ | Distinction |
| $60 \leq M < 80$ | First Class |
| $M < 60$ | Pass |
- (e) Calculate the number of students who have acquired less than 50% marks. 4

Or

- (a) Discuss the following functions with an example of each : 1½×4=6
- (i) Countifs
 - (ii) OR
 - (iii) NOW
 - (iv) FIND
- (b) What are the different ways to refer a cell? Explain. 4
- (c) Discuss in brief on organizational chart. 5

4. (a) What are Internet and World Wide Web (WWW)? Explain. $2+2=4$

(b) Write short notes on the following : $2\frac{1}{2}+2\frac{1}{2}=5$

(i) Web browser

(ii) Web site

(c) How does a web search engine work? Explain. 6

Or

(a) What is Internet protocol? Name some commonly used Internet protocols. $2+4=6$

(b) Define the following terms : $3\times 3=9$

(i) Web server

(ii) Firewall

(iii) Uniform Resource Locator (URL)

5. (a) What are the impacts of e-commerce in today's business paradigm? 6

(b) Discuss different e-payment systems used in e-commerce. 9

Or

(a) Mention the advantages and disadvantages of e-commerce over traditional commerce. 5

(b) Discuss different types of e-advertisement method. 5

(c) What are the major types of e-marketing? What are the advantages of e-marketing? $3+2=5$
