

Total No. of Printed Pages =1

Roll No. of Candidate

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July 2024

Ph. D Course Work Examination

(Regular/Reappear)

RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Section-A

Attempt any five

10 × 5 = 50

1. Write a note on research along with its objectives.
2. Explain various types of research in brief.
3. Explain various methods of literature review.
4. Distinguish between Research methods and Research methodology.
5. What is research design? Mention the features of a good research design.
6. Discuss sample survey, complete census and determination of sample size.
7. Write a detailed note on nominal, ordinal, interval and ratio scales of measurement.
8. Describe the Likert Scale and validity.

Section-B

Attempt any five

10 × 5 = 50

1. Write a note on various methods of collecting primary data and distinguish between ungrouped and grouped data.
2. The mean weekly sales of soap bars in departmental stores was 146.3 bars per store. After an advertising campaign the mean weekly sales in 22 stores for a typical week increased to 153.7 and showed a standard deviation of 17.2. Was the advertising campaign successful?
3. Mentioning the assumptions and applications of ANOVA, discuss the steps of conducting a one-way ANOVA.
4. What is factor analysis? Explain how to feed data in SPSS.
5. Discuss report writing, detailing the different kinds of report.
6. What is legal research methodology? Distinguish between doctrinal and non-doctrinal research.
7. Explain the motivating factors and steps of legal research.
8. Write a note on data analysis. Identify the stages for performing research by empirical method.

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July 2024

Ph. D Course Work Examination

(Theory)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

Answer **any five**

10 x 5

1. Write in brief about the following:

i) Data fabrication and falsification ii) Plagiarism iii) Multiple submissions iv) Redundant publications (or 'salami' publications) v) conflict of interest (COI) in research

2. Write note on predatory publishers and journals.

3. Researchers Stefan Eriksson and Gert Helgesson identified 25 signs of predatory publishing. Mention any 10 of them

4. Write short notes on the following research metric: (i) impact factor, (ii) cite-score, (iii)h-index and (iv) i-index. Explain each with suitable examples.

5. With the help of suitable elaborations explain the differences between different forms of computer memory. Give some names of Input-Output devices.

6. Write about the various network topologies.

7. With the help of different components of computer, explain the steps of data processing in a computer.

8. Write an algorithm and draw the flowchart for swapping two numbers without using third variable. Also write a program in C-Language to implement the algorithm.

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July 2024

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

Each question carries 10 marks

Attempt any 5 questions

10 x 5

1. Develop a database of 10 records will include: product name, price per unit, quantity, and price with GST (8%). Calculate total price and based on the price per unit make one price status as “High price” and “Low Price” depending on the price per unit. If the price per unit is less than 500 then Low price otherwise High price. Also depending on quantity give another remark that if the quantity is less than 20 low demand otherwise high demand.

2. Develop a database of 10 records with the salary components: (i) Basic Pay, (ii) House Rent Allowance (HRA), (ii) Medical Allowance (MA), (iv) Other allowance (OA). Consider 20% tax deductions on gross salary and hence calculate net salary.

3. Develop a database of 10 records which will include: student name, 5 subjects names, total marks, % of marks. Now based on % of marks give results as follows:

- 0 to less than 30% assign grade FAIL
- 30% to less than 45% assign grade THIRD DIVISION
- 46% to less than 59% assign grade SECOND DIVISION
- 60 to less than 80% assign grade FIRST DIVISION
- 81 to less than 100% assign grade DISTINCTION

4. Calculate the function $f(x)$ with $x = -1, 2, 3, \dots, 10$ and $x = -1, -2, -3, \dots, -10$ function is defined as follows:

$$f(x) = x^3 - 7x^2 + 3x - 16$$

5. Calculate the function $g(x)$ with $x = -1, 2, 3, \dots, 10$ and $x = -1, -2, -3, \dots, -10$ function is defined as follows

$$g(x) = x^3 + \log(x) - 9\cos(x)$$

6. Write a C program to generate first 20 even natural numbers.

7. Write a C program to find the value of $g(x) = x^2 + 3x - 12$ for any input from user for x .

8. Write a C program to generate first 20 squared natural numbers.

Total No. of Printed Pages =2

Roll No. of Candidate

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2024

Ph. D Course Work Examination

(Regular/Reappear)

RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Answer any three from Section-A and any two from Section -B

Section-A

Answer any three from the following:

1. "Distinguished researchers define Research in their own way" – Illustrate. Narrate the various types of research in brief. 10 + 10
2. What is meant by literature survey in research? "A research problem refers to some difficulty experienced by a researcher" – Give a brief idea on this statement. Also explain the techniques involved in defining a research problem. 5 + 5 + 10
3. What is sampling? Explain why sampling is more advantageous than complete census. Write a note on sample size determination with example. 2 + 8 + 10
4. Explain the various comparative scaling techniques. Critically explain the importance of reliability and validity in research. 10 + 10

Section-B

(For Scholars of RSA, RSB, RSAPS, RSC, RSTTM, RSP, RSHSS, RSET, RSIT, RSLSC, RSBSC & Related Schools)

Answer any two from the following:

5. (a) What are the various methods of collecting primary data? Distinguish between a schedule and a questionnaire. 4 + 4
(b) Define null hypothesis, alternate hypothesis and level of significance in testing of hypothesis. State and explain the various steps of testing hypothesis. 3 + 4
(c) The manufacturer of television tubes knows from experience that the average life of a tube is 2,000 hours with a standard deviation of 200 hours. A sample of 100 tubes has an average life of 1950 hours. Test at the 0.05 level of significance if this sample came from a normal population of mean 2,000 hours. Is the result of the test significant? 5
6. (a) Compute correlation coefficient between X and Y from the following: 6

P.T.O

X	40	45	62	78	80	85	92
Y	43	49	65	84	82	86	95

(b) Discuss the uses parametric and non-parametric statistics in research with their underlying assumptions. 7

(c) Two researchers adopted different sampling techniques while investigating the same group of students to find the number of students falling in different intelligence levels. The results are as follows:

Researchers	Number of students in each level				Total
	Below average	Average	Above average	Genius	
X	86	60	44	10	200
Y	40	33	25	12	110
Total	126	93	69	22	310

Would you say that the sampling techniques adopted by the two researchers are significantly different? [Given: $\chi^2_{0.05}(3) = 5.991$] 7

7. (a) Write a note on uses of MS-Excel and SPSS in research. 5
- (b) What is factor analysis? What are the main differences between exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)? 2 + 3
- (b) Write a detailed note on report writing, discussing the different kinds of report with suitable examples. 10

Section-B

(For Scholars of RSL, RSLA, RSCOM & RSFA and related Schools)

Answer any two from the following:

5. Describe the differences between qualitative and quantitative variables. Narrate how qualitative and quantitative variables are used in performing research in social sciences. 8 + 12
6. What is legal research methodology? Explain the motivating factors and steps of legal research. Distinguish between doctrinal and non-doctrinal research. 5 + 10 + 5
7. Write a note on report writing and its importance. Discuss the MLA style of referencing, citation and bibliography with suitable examples. What is DOI and why is it significant? 4 + 12 + 4

Total No. of Printed Pages =

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2023-24

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

Each question carries 10 marks

Attempt any 5 questions

1. Create a table of of at least 10 employees and calculate the Net Salary with the following components of the salary Basic Pay, House Rent Allowance(HRA), Medical Allowance(MA), Other allowance(OA).

2. Generate Multiplication Table(MT) in MS-Excel from MT of 5 to MT of 10

3. Create a table consisting of consumer based products (take at least 10 items) and now calculate the price with 8% GST. Also calculate the new price if the price of all the products when prices increased by 15% with GST and without GST in separate columns. Take the quantity of products of all itmes as 20 Nos. Consider the price per quantity in separate column.

4. Create a table of of at least 10 students and 5 subjects and then calculate the total marks, percentage of marks and grade of all the students using the following:

- a) 0 to less than 30% assign garde F
- b) 30% to less than 45% assign garde C
- c) 46% to less than 59% assign garde B
- d) 60 to less than 80% assign garde A
- e) 81 to less than 100% assign garde S

5. Calculate the function values with $x = -2, -5, -7$ and $x = 4, 6, 7$, of the following

$$f(x) = x^2 - 7x + 11 \quad \text{and} \quad g(x) = x^3 + 11x - 9$$

6. Write a C program to find the factorial of a number.

7. Write a C program to find the value of $g(x) = x^2 + 4x - 7$ for any input from user.

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2023
Ph. D Course Work Examination
(Regular/Reappear)
RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.
Answer any three from Section-A and any two from Section -B

Section-A

*Answer any **three** from the following:*

1. What is research? Explain the concept of various types of research in brief. 5 + 15
2. State the importance of literature survey in research. As a researcher, what are the points you should keep in mind while selecting a research problem? 10 + 10
3. What is sampling? "Sampling is more advantageous than complete census"- Elaborate. Explain in detail the various probability methods of sampling with suitable examples? 2 + 6 + 12
4. "The most widely used classification of measurement scales are: nominal, ordinal, interval and ratio"-Explain with suitable examples. Describe the role of reliability and validity in measuring the goodness of measurement scales. 10 + 10

Section-B (for Group-A and Group-C)

(For Scholars of RSA, RSB, RSAPS, RSC, RSTTM, RSP, RSHSS, RSET, RSIT, RSLSC, RSBSC & Related Schools)

Answer any two from the following:

5. (a) "There are several methods of collecting primary data, particularly in surveys and descriptive researches" – Narrate the pros and cons of these methods. 15
 (b) A machinist is making engine parts with mean axle diameters of 0.700 inch. A random sample of 10 parts shows a mean diameter of 0.742 inch with a standard deviation of 0.040 inch. Would you conclude that the work is meeting the specifications? [Given: $t_{0.05}(9) = 2.26$] 5
6. (a) Obtain the line of regression of sale on advertising from the following: 6

Advertising	4	6	8	10	13
Sale	15	18	21	23	24

- (b) Below are given the yields per acre of wheat for six plots entering a crop competition, three of the plots being sown with wheat of variety A and three with B.

P.T.O

Variety Yields in fields per acre

	1	2	3
A	30	32	22
B	20	18	16

Set up a table of analysis of variance and calculate F. State whether the difference between the yields of two varieties is significant taking 7.71 as the table value of F at 5% level for $v_1 = 1$ and $v_2 = 4$. 14

7. Why reporting of a research work is important? Discuss in detail the APA style of referencing, citation and bibliography with suitable examples. Why is proper citation and referencing essential for a researcher? 5+10+5

Section-B(for Group-B)

(For Scholars of RSL, RSLA, RSCOM & RSFA and related Schools)

Answer any two from the following:

5. What is legal research methodology? Explain the motivating factors and steps of legal research. Distinguish between doctrinal and non-doctrinal research. 5 + 10 + 5
6. Evaluate the meaning of empirical research. Identify the stages for conducting a research by empirical method. Explain the importance of empirical research in the field of legal research. 5+5+10
7. Discuss the MLA style of referencing, citation and bibliography with suitable examples. How would you differentiate the MLA from the APA styles? 15 + 5
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Total No. of Printed Pages =

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2022-23

Ph. D Course Work Examination

(Theory)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

1. Answer **any five**

10 x 5

a) What do you understand by i) Data fabrication and falsification ii) Plagiarism iii) Multiple submissions iv Redundant publications (or 'salami' publications) v) conflict of interest (COI) in research

b) Write about predatory publishers and journals.

c) Researchers Stefan Eriksson and Gert Helgesson identified 25 signs of predatory publishing. Mention any 10 of them

d) What is h-index? Explain with an example.

e) What do you mean by open access publishing? What are the different types of open access publishing? Explain any one of them.

f) What is programming languages? Write a C program to find the product of two numbers.

g) Write about SPSS and MS-Excel.

Total No. of Printed Pages =

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2022-23

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

1. Enter the data given below into a worksheet.

20

	A	B	C	D	E
1	Stationery Supplies Ltd				
2					
3	Date	SalesPerson	Item	Receipt No	Amount
4	21-Nov	Carl	Toys	1238	1,782.10
5	26-Nov	Carl	Stationery	1255	4,853.55
6	26-Nov	Carl	Toys	1395	51.35
7				Carl's Total	
8	21-Nov	John	Cards	1141	91.15
9	24-Nov	John	Books	1982	442.60
10	21-Nov	John	Toys	1885	561.50
11	26-Nov	John	Toys	1875	62.75
12				John's Total	
13	22-Nov	Judy	Books	1032	234.50
14	26-Nov	Judy	Sports goods	1920	472.60
15				Judy's Total	
16	25-Nov	Mary	Toys	1774	364.15
17				Mary's Total	
18	22-Nov	Susan	Electronics	1160	52.95
19	23-Nov	Susan	Cards	1075	81.60
20	23-Nov	Susan	Others	1745	132.95
21	24-Nov	Susan	Sports goods	1662	2,580.10
22				Susan's Total	
23					
24				Grand Total	

- Calculate the totals for each salesperson and get the grand total.:
- Format the worksheet as follows:
Make all the Totals bold, two decimal places, comma, centre the title across columns A-E and make it size 16, bold and Italic.

c. Put a double border round the whole table and a single line border inside the table.

d. Save the worksheet as **Stationery Analysis**.

30

2. Answer any one

a) You are in charge of a young and growing business. You have identified the various factors (sources of revenue and expenses) that influence the business as shown in the table below. Use the figures provided and the layout to create a financial projection model for the business for the next six years. The parameters are given on Sheet 2.

SHEET 1:

INCOME AND EXPENSES PROJECTIONS						
	1999	2000	2001	2002	2003	2004
Sales	10,000					
% Growth over the previous year		20%	30%	20%	10%	10%
Materials						
Wages						
Other benefits						
Others						
Total Cost of Goods Sold						
Salary: Office						
Salary: Sales						
Other Benefits						
Advertising & Promotions						
Depreciation						
Miscellaneous						
Total General & Admin. Expenses						
Total Operating Costs						
Interest on Loans						
Pre-tax Income						
Tax						
Profit						

SHEET 2:

Parameters		Description
Sales	10,000	Starts at 10,000 and grows by a percentage
Materials	17%	17% of Sales
Wages	14%	14% of Sales
Other benefits	2.1%	2.1% of Sales
Others	8%	Starts at 100, then grows by 8% yearly
Salary: Office	10%	Starts at 1,000, then grows by 10% annually

Salary: Sales	8%	8% of Sales
Other Benefits	17%	17% of Total Salary
Advertising & Promotions	2.5%	2.5% of Sales
Depreciation	20	Fixed at 20 every year
Miscellaneous	10	Starts at 10 and grows by a fixed amount of 10 annually
Interest on Loans	10	A fixed amount of 10 each year
Tax	52%	52% of Pre-tax Income

Exercise Instructions.

- (i). Open the worksheet named **Income and Expenses Projections.xls**.
- (ii). Rename Sheet1 as **Projections** while Sheet 2 should now be **Parameters**.
- (iii). Calculate the Sales for the year 2000 using the percentage given in cell **C5**.
- (iv). Copy the formula across to the Year 2004.
- (v). Calculate the different items that make up the Total Operating Costs using the parameters in the Parameters sheet.
(You should enter the formula for the Year 1999 and copy down to the year 2004. Use Absolute Referencing effectively).

Hint: $Total\ Cost\ of\ Goods\ Sold = Materials + Wages + Other\ Benefits + Others$
- (vi). Calculate the Total Operating Costs:
 $Total\ Cost\ of\ Goods\ Sold + Total\ General\ and\ Administrative\ Expenses.$
- (vii). Calculate the Interest on Loans:
- (viii). Calculate the Pre-tax Income.
 $Sales - Total\ Operating\ Cost - Interest\ on\ Loans.$
- (ix). Calculate the Tax.
- (x). Calculate the Profit:
 $Pre-tax\ Income - Tax.$
- (xi). Format the worksheet as follows:
Make all the Totals bold, zero decimal places, comma, center the heading between A1:G1 and make it size 16, bold.
- (xii). Save the file as **C:\Exams\Creative.xls**

b) What is programming language? Give some examples of programming language. Write three programs in C language to

i) add two numbers

ii) swap two numbers

iii) print first 10 multiples of 5

Total No. of Printed Pages =2

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2023
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(Regular/Reappear)
RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

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The figures in the margin indicate full marks.
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Section-A

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1. What is research? Explain the concept of various types of research in brief. 5 + 15
2. State the importance of literature survey in research. As a researcher, what are the points you should keep in mind while selecting a research problem? 10 + 10
3. What is sampling? "Sampling is more advantageous than complete census"- Elaborate. Explain in detail the various probability methods of sampling with suitable examples? 2 + 6 + 12
4. "The most widely used classification of measurement scales are: nominal, ordinal, interval and ratio"-Explain with suitable examples. Describe the role of reliability and validity in measuring the goodness of measurement scales. 10 + 10

Section-B (for Group-A and Group-C)

(For Scholars of RSA, RSB, RSAPS, RSC, RSTTM, RSP, RSHSS, RSET, RSIT, RSLSC, RSBSC & Related Schools)

Answer any two from the following:

5. (a) "There are several methods of collecting primary data, particularly in surveys and descriptive researches" – Narrate the pros and cons of these methods. 15
(b) A machinist is making engine parts with mean axle diameters of 0.700 inch. A random sample of 10 parts shows a mean diameter of 0.742 inch with a standard deviation of 0.040 inch. Would you conclude that the work is meeting the specifications? [Given: $t_{0.05}(9) = 2.26$] 5
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P.T.O

Variety Yields in fields per acre

	1	2	3
A	30	32	22
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Set up a table of analysis of variance and calculate F. State whether the difference between the yields of two varieties is significant taking 7.71 as the table value of F at 5% level for $v_1 = 1$ and $v_2 = 4$. 14

7. Why reporting of a research work is important? Discuss in detail the APA style of referencing, citation and bibliography with suitable examples. Why is proper citation and referencing essential for a researcher? 5+10+5

Section-B(for Group-B)

(For Scholars of RSL, RSLA, RSCOM & RSFA and related Schools)

Answer any two from the following:

5. What is legal research methodology? Explain the motivating factors and steps of legal research. Distinguish between doctrinal and non-doctrinal research. 5 + 10 + 5
6. Evaluate the meaning of empirical research. Identify the stages for conducting a research by empirical method. Explain the importance of empirical research in the field of legal research. 5+5+10
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2022-23

Ph. D Course Work Examination

(Theory)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

1. Answer **any five**

10 x 5

- a) What do you understand by i) Data fabrication and falsification ii) Plagiarism iii) Multiple submissions iv Redundant publications (or 'salami' publications) v) conflict of interest (COI) in research
- b) Write about predatory publishers and journals.
- c) Researchers Stefan Eriksson and Gert Helgesson identified 25 signs of predatory publishing. Mention any 10 of them
- d) What is h-index? Explain with an example.
- e) What do you mean by open access publishing? What are the different types of open access publishing? Explain any one of them.
- f) What is programming languages? Write a C program to find the product of two numbers.
- g) Write about SPSS and MS-Excel.

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2022-23

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

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17				Mary's Total	
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20	23-Nov	Susan	Others	1745	132.95
21	24-Nov	Susan	Sports goods	1662	2,580.10
22				Susan's Total	
23					
24				Grand Total	

a. Calculate the totals for each salesperson and get the grand total.:

b. Format the worksheet as follows:

Make all the Totals bold, two decimal places, comma, centre the title across columns A-E and make it size 16, bold and Italic.

c. Put a double border round the whole table and a single line border inside the table.

d. Save the worksheet as **Stationery Analysis**.

2. Answer any one

30

a) You are in charge of a young and growing business. You have identified the various factors (sources of revenue and expenses) that influence the business as shown in the table below. Use the figures provided and the layout to create a financial projection model for the business for the next six years. The parameters are given on Sheet 2.

SHEET 1:

INCOME AND EXPENSES PROJECTIONS						
	1999	2000	2001	2002	2003	2004
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Wages						
Other benefits						
Others						
Total Cost of Goods Sold						
Salary: Office						
Salary: Sales						
Other Benefits						
Advertising & Promotions						
Depreciation						
Miscellaneous						
Total General & Admin. Expenses						
Total Operating Costs						
Interest on Loans						
Pre-tax Income						
Tax						
Profit						

SHEET 2:

Parameters		Description
Sales	10,000	Starts at 10,000 and grows by a percentage
Materials	17%	17% of Sales
Wages	14%	14% of Sales
Other benefits	2.1%	2.1% of Sales
Others	8%	Starts at 100, then grows by 8% yearly
Salary: Office	10%	Starts at 1,000, then grows by 10% annually

Salary: Sales	8%	8% of Sales
Other Benefits	17%	17% of Total Salary
Advertising & Promotions	2.5%	2.5% of Sales
Depreciation	20	Fixed at 20 every year
Miscellaneous	10	Starts at 10 and grows by a fixed amount of 10 annually
Interest on Loans	10	A fixed amount of 10 each year
Tax	52%	52% of Pre-tax Income

Exercise Instructions.

- (i). Open the worksheet named **Income and Expenses Projections.xls**.
- (ii). Rename Sheet1 as **Projections** while Sheet 2 should now be **Parameters**.
- (iii). Calculate the Sales for the year 2000 using the percentage given in cell C5.
- (iv). Copy the formula across to the Year 2004.
- (v). Calculate the different items that make up the Total Operating Costs using the parameters in the Parameters sheet.
(You should enter the formula for the Year 1999 and copy down to the year 2004. Use Absolute Referencing effectively).

Hint: *Total Cost of Goods Sold = Materials + Wages + Other Benefits + Others*

- (vi). Calculate the Total Operating Costs:
Total Cost of Goods Sold + Total General and Administrative Expenses.
- (vii). Calculate the Interest on Loans:
- (viii). Calculate the Pre-tax Income.
Sales – Total Operating Cost – Interest on Loans.
- (ix). Calculate the Tax.
- (x). Calculate the Profit:
Pre-tax Income - Tax.
- (xi). Format the worksheet as follows:
Make all the Totals bold, zero decimal places, comma, center the heading between A1:G1 and make it size 16, bold.
- (xii). Save the file as **C:\Exams\Creative.xls**

b) What is programming language? Give some examples of programming language. Write three programs in C language to

- i) add two numbers
- ii) swap two numbers
- iii) print first 10 multiples of 5

JUNE'23

Ph.D COURSE WORK EXAMINATION

(REGULAR/REPEAT)

NAME OF THE SUBJECT: RECENT TREND IN LAW & CURRENT ISSUES
(PAPER III)

Full Marks – 100

Time – 3 hours

The figures in the margin indicate full marks.

Answer any **FIVE** questions

(20X5=100)

1. (a) 'The objectives before the Constituent Assembly were to constitute India into a sovereign democratic republic and to secure its citizens justice, liberty, equality and fraternity', -- What is the ultimate aim of the Constitution makers. How it had been reflected in our Constitution. 10
- (b) Explain 'equality before law' and 'equal protection of law' in view of the article 14 of the Constitution. 10
2. (a) Crime is a revolt against the whole society and an attack on the civilization of the day". Elucidate and discuss the essential elements and stages of the commission of a crime. 10
- (b) What is the difference between criminology and crime? 10
3. (a) Compensation to the victims of crime in India is the vanishing point of Criminal Jurisprudence. Comment. Support your answer with the help of decided cases. 10
- (b) The Courts play a vital role in interpreting statutes and assigning meaning to them in a manner that makes them practical and usable. However, the courts cannot exercise their interpretative function arbitrarily as this would result in numerous interpretations and hinder the administration of equal justice. To ensure consistency, the Courts have developed certain principles and rules of interpretation of statutes over time.
What do you mean by the term 'Interpretation of Statutes' and what are the principles and rules of interpretation of statutes over time, which have been applied by the Courts on various occasions? 10

P.T.O

Total No. of Printed Pages =

Roll No. of Candidate

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2022-23

Ph. D Course Work Examination

(Theory)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

1. Answer **any five**

10 x 5

- a) Write about the Data fabrication and falsification , Plagiarism, Multiple submissions, Redundant publications (or 'salami' publications), conflict of interest (COI) in researches.
- b) How do the predatory publishers and journals affect the researchers? How does this scam work?
- c) What are the signs of predatory publishing? Discuss atleast 10 signs of the Researchers Stefan Eriksson and Gert Helgesson identified 25 signs of predatory publishing.
- d) How can you calculate i-index and h-index? Explain with an example.
- e) Discuss the open access publishing. How does it affect researchers?
- f) Compare the quantitative and qualitative research.
- g) Write about the applications of SPSS and MS-Excel in building the analytical parts of your research. .

Total No. of Printed Pages =

Roll No. of Candidate

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2022-23

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

Each question carries 10 marks

Attempt any 5 questions

1. Create a table of of at least 10 employees and calculate the Net Salary with the following components of the salary Basic Pay, House Rent Allowance(HRA), Medical Allowance(MA), Other allowance(OA).
2. Generate Multiplication Table(MT) in MS-Excel from MT of 5 to MT of 10
3. Create a table consisting of consumer based products (take at least 10 items) and now calculate the price with 8% GST. Also calculate the new price if the price of all the products when prices increased by 15% with GST and without GST in separate columns. Take the quantity of products of all itmes as 20 Nos. Consider the price per quantity in separate column.
4. Create a table of of at least 10 students and 5 subjects and then calculate the total marks, percentage of marks and grade of all the students using the following:
 - a) 0 to less than 30% assign garde F
 - b) 30% to less than 45% assign garde C
 - c) 46% to less than 59% assign garde B
 - d) 60 to less than 80% assign garde A
 - e) 81 to less than 100% assign garde S
5. Calculate the function values with $x = -2, -5, -7$ and $x = 4, 6, 7$, of the following
 $f(x) = x^2 - 7x + 11$ and $g(x) = x^3 + 11x - 9$
6. Calculate:
 - a. Total Cost of Goods Sold = Materials + Wages + Other Benefits + Others
 - b. Calculate the Total Operating Costs:
 - c. Total Cost of Goods Sold + Total General and Administrative Expenses.
 - d. Calculate the Interest on Loans:
 - e. Calculate the Pre-tax Income.
 - f. Sales – Total Operating Cost – Interest on Loans.
 - g. Calculate the Tax.

- h. Calculate the Profit:
 i. Pre-tax Income - Tax.

Create the worksheet based on the following information

Parameters		Description
Sales	10,000	Starts at 10,000 and grows by a percentage
Materials	17%	17% of Sales
Wages	14%	14% of Sales
Other benefits	2.1%	2.1% of Sales
Others	8%	Starts at 100, then grows by 8% yearly
Salary: Office	10%	Starts at 1,000, then grows by 10% annually
Salary: Sales	8%	8% of Sales
Other Benefits	17%	17% of Total Salary
Advertising & Promotions	2.5%	2.5% of Sales
Depreciation	20	Fixed at 20 every year
Miscellaneous	10	Starts at 10 and grows by a fixed amount of 10 annually
Interest on Loans	10	A fixed amount of 10 each year
Tax	52%	52% of Pre-tax Income

7. Create a table consisting of consumer based products (take at least 10 items) and now calculate the price with 10.5 % GST. Also calculate the new price if the price of all the products when prices decreased by 10% with GST and without GST in separate columns. Take the quantity of products of all items as 20 Nos. Consider the price per quantity in separate column.

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2023

Ph. D Course Work Examination**(Regular/Reappear)****RESEARCH METHODOLOGY (PAPER I)**

Full Marks- 100

Time- 3 hours

*The figures in the margin indicate full marks.**Answer any three from Section-A and any two from Section -B***Section-A***Answer any three from the following:*

1. What is research? What are the objectives of research? "Various steps are followed in research" - Illustrate. 5 + 5 + 10
2. "Literature survey has significant role in research" – Explain the statement with appropriate examples. Distinguish between Research methods and Research methodology. 10 + 10
3. What is research design? Mention the features of a good research design. Distinguish between sample survey and complete census. 6 + 6 + 8
4. "The most widely used classification of measurement scales are: nominal, ordinal, interval and ratio"- Explain with suitable examples. Give a complete description on Likert Scale. Narrate the concept of reliability in research. 8 + 6 + 6

Section-B**(For Scholars of RSA, RSB, RSAPS, RSC, RSTTM, RSP, RSHSS, RSET, RSIT, RSLSC, RSBSC & Related Schools)***Answer any two from the following:*

1. (a) What are the various methods of collecting primary data? Distinguish between a schedule and a questionnaire. 6 + 6

(b) A die is thrown 132 times with the following results:

Number turned up	1	2	3	4	5	6
Frequency	16	20	25	14	29	28

Is the die unbiased? [Given: $\chi^2_{0.05}(5) = 11.07$]

2. (a) Obtain the Correlation coefficient between advertising and sales from the following information: 8

P.T.O

Advertising	2	4	6	8	10	13	18
Sales	10	15	18	21	23	24	28

(b) What is factor analysis? What are the main differences between exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)? How can factor analysis be applied in real-life research or data analysis? Explain with a case study. 2 + 4 + 6

3. Write a detailed note on report writing, discussing the different kinds of report and parts of a report with suitable examples. 20

Section-B

(For Scholars of RSL, RSLA, RSCOM & RSFA and related Schools)

Answer any two from the following:

5. Describe the differences between qualitative and quantitative variables. Narrate how qualitative and quantitative variables are used in performing research in social sciences. 8 + 12
6. Write a note on empirical research. Identify the stages for performing a research by empirical method. Narrate the significance of empirical research in the field of legal research. 5+5+10
7. Compare and contrast the APA and MLA styles of referencing and citation with suitable examples. What is DOI and why is it significant? 15 + 5

Total No. of printed pages = 1

Roll No. of candidate

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2022

Ph.D Course Work Examination

COMPUTER APPLICATION & RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

Answer any five questions

1. Explain the role of computer applications and tools in the scientific research process? 10
2. What is Open Access? What are its features? Explain different open access initiatives' in India? What are the different ways of publishing in open access? 10
3. Explain the automated methods of plagiarism detection? 10
4. What is indexing of journal? Explain different parameters of indexing? 10
5. Discuss ethics in research? Discuss various aspects of publication misconduct? 10
6. What do you mean by Falsification and Fabrication? Write a note on predatory publishers and journals? 10
7. Write the short note on 10
 - a. Salami slicing
 - b. Conflict of interest

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PARSDP
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Total No. of Printed Pages =2

Roll No. of Candidate

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2022

Ph. D Course Work Examination

(Regular/Reappear)

RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Answer any three from Section-A and any two from Section -B or Section -C:

Section-A

Answer any three from the following:

1. Discuss the various styles of referencing known to you. Write briefly on the important components of a report. 10+10
2. Define research Design. Explain the importance of research design. Make a comparative analysis of Descriptive, Exploratory and Causal research design. 4+6+10
3. What is meant by sample size? How can you decide the size of a sample? Explain stratified, cluster and Quota Sampling with example. 4+6+10
4. (a) Explain the various methods of collecting primary data. 12
(b) Explain the meaning and importance of editing, coding and classification of data? 8

Section-B

(For Scholars of RSBS, RSLs, RSCOM & RSP) RSEEES

Answer any two from the following:

5. What is meant by research? Briefly describe the different types of research 5+15
6. What is research problem? Briefly discuss the steps followed for identification of a research problem. What precautions are to be undertaken in formulating a research problem? 5+8+7
7. "Various sampling methods are available for conducting research" – Explain with suitable examples. Also write a note on selection of sample size. 15 + 5

[Turn Over]

Section-C
(For Scholars of RSL & RSHSS), RSLA

Answer any two from the following:

9. Discuss in detail the different stages of research. What are the components of a good research proposal? (10+10)
10. With suitable examples, discuss in detail the MLA and APA formats of styles of referencing. (10+10)
11. Write a proposal on your proposed area of research. (20)

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2020-21

-Ph. D Course Work Examination

(Regular/Reappear)

RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Answer any three from Section-A and any two from Section -B or Section -C:

Section-A

Answer any three from the following:

1. Distinguish between research method and methodology. Explain the steps of research in detail. 5+15
2. Define research Design. Explain the importance of research design. Make a comparative analysis of Descriptive, Exploratory and Causal research design. 4+6+10
3. What is meant by sample size? How can you decide the size of a sample? Explain stratified, cluster and Quota Sampling with example. 4+6+10
4. (a) Explain the various methods of collecting primary data. 12
(b) Explain the meaning and importance of editing, coding and classification of data? 8

Section-A

(For Scholars of RSBS, RSLs, RSCOM & RSP)

Answer any two from the following:

5. Distinguish between measurement and Scaling. State and explain the primary scales of measurement with suitable example. Also make a list of permissible statistics associated with these scales. 4+12+4
6. (a) Explain the steps a researcher follows for formulation and testing of hypothesis in social science research. 10
(b) To test the significant variation in the performance of students of three Schools four students were chosen randomly from each school and a general awareness test is conducted. The marks scored were recoded as:

<i>School A:</i>	46	68	49	44
<i>School B:</i>	64	70	53	69
<i>School C:</i>	59	80	88	83

Can you conclude that performances of the students are significantly different at 5% level of significance? ($F_{0.05, df-2 \text{ \& } 9}$ critical value- 4.26) 10

7. (a) Define 'Referencing' and 'Bibliography'. State the various styles of referencing with example. 4+6
(b) Explain the contents and qualities of a good research report 10

[Turn Over]

Section-B
(For Scholars of RSL & RSHSS)

Answer any two from the following:

5. (a) "Identifying the research problem is the most challenging task while doing research"-
Explain. 10
(b) Discuss the importance of empirical research and the methods of doing empirical
research. 10
- 6.(a) Distinguish between referencing and bibliography. Why citation is important in
research? 5+5
(b) State the basic difference between MLA and APA referencing styles? Write one
examples each for MLA and APA styles. 5+5
7. Explain the layout of Ph D Thesis. State the qualities of a good research report. 12+8

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Jan-June'21

Ph. D Course Work Examination

(Theory)

COMPUTER APPLICATIONS and RPE (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

Answer any five questions

1. Explain the role of computer in research? Explain the different tools and application used in the research process? 5+5=10
2. What is the importance of internet to researchers? Explain the challenges of implementing Free and Open Source Software? 5+5=10
3. Explain the different topology used in computer network? Explain the importance and use of scientific and technical databases? 5+5=10
4. Distinguish the following from each other 10
 - a. Fabrication
 - b. Falsification
 - c. Plagiarism
5. Discuss briefly the different organization involved in rectifying the principle of transparency and based practices for scholarly publication? 10
6. Discuss the individual & institutional level integrities for ensuring ethical practices in research? 10

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2020-21

Ph. D Course Work Examination
COMPUTER APPLICATION (Practical)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

- | | |
|---|----|
| 1. What is data analysis? Explain the different types of data analysis? | 10 |
| 2. Write the syntax of any 10 excel functions? | 10 |
| 3. The following is a simple payroll: | 15 |

	A	B	C	D	E	F	G	H	I
1	Name	Hours Worked	Hourly Rate	Basic Pay	Gross Pay	Tax Deductions	NSSF Contributions	Allowances	Net Pay
2	John	8	200						
3	Peter	12	450						
4	Sam	22	300						
5	Njogu	30	286						
6	Mary	16	220						
7	Sally	45	468						
8	Jane	15	150						
9	Tina	3	280						

Calculate the Basic Pay, Gross Pay, Tax Deductions, Allowances and Net pay using the following formula

- | | |
|---|---|
| a. Basic Pay = Hours Worked * Hourly Rate. | 3 |
| b. Allowances are allocated at 10% of the Basic Pay. | 3 |
| c. Gross Pay = Basic Pay + Allowances. | 3 |
| d. Tax Deduction is calculated at 20% of the Gross Pay. | 3 |
| e. Net Pay = Gross Pay – Tax Deductions. | 3 |

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2020-21

Ph. D Course Work Examination

(Practical)

COMPUTER APPLICATIONS AND RESEARCH & PUBLICATION ETHICS (PAPER II)

Full Marks- 50

Time- 1.5 hours

The figures in the margin indicate full marks.

1. What is cell reference? Explain the 3 types of cell references in Excel with example? 10
2. Write any 10 Linux commands of file operations. 10
3. Create the following excel sheet and perform the operations as directed. 15

Panda EST						
Monthly Sales Report - July						
Emp. No.	Name	Salary	Sales Amount		Comission	Total Salary
S101	Ahmed	1600	2500	?	?	
S105	Hassan	1800	3000		-	
S112	Ali	1500	2200		-	
S107	Waleed	2000	4500		-	
S110	Mohammed	1200	1500		-	
S103	Sama	1000	2500		-	
	Totals	?	?	?	?	
	Average	?	?	?	?	
	Highest	?	?	?	?	
	Lowest	?	?	?	?	
	Count	?				

- Set the column widths as follows: Column A: 8, Column B: 14, Columns C & D: 15, Columns E & F: 14.
- Enter the formula to find COMMISSION for the first employee. The commission rate is 2% of sales, $COMMISSION = SALES * 2\%$ Copy the formula to the remaining employees.
- Enter the formula to find TOTAL SALARY for the first employee where: $TOTAL SALARY = SALARY + COMMISSION$ Copy the formula to the remaining employees.
- Enter formula to find TOTALS, AVERAGE, HIGHEST, LOWEST, and COUNT values. Copy the formula to each column.
- Format numeric data to include commas and two decimal places.
- Align all column title labels horizontally and vertically at the center.
- Create a Header that includes your name in the left section, page number in the center section, and your ID number in the right section.

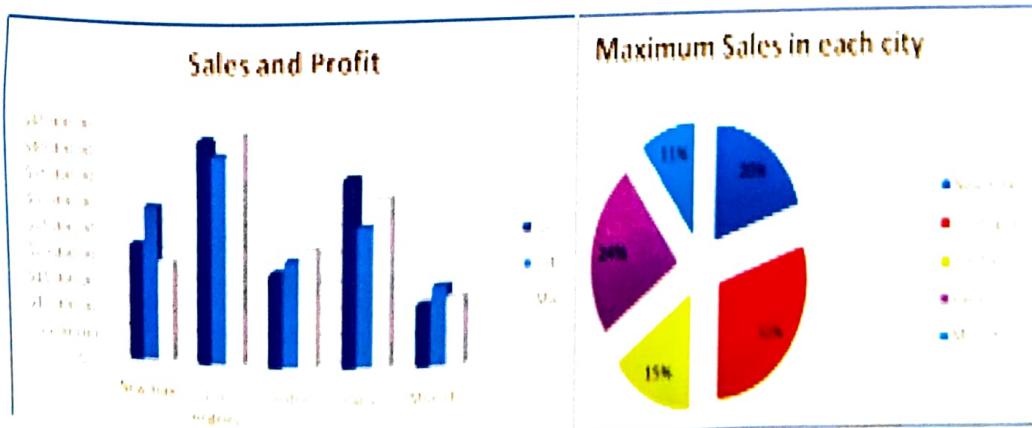
- h. Create footer with DATE in the left section and TIME in the right section.
- i. Save the file with name panda EST.

4. Create the following excel sheet and perform the operations as directed.

15

No	City	Jan	Feb	Mar	Average	Maximum
C001	New York	\$12,000.00	\$9,000.00	\$9,000.00	9,000	12,000
C002	Los Angeles	\$42,000.00	\$9,000.00	\$13,000.00	18,000	42,000
1	London	\$18,000.00	\$9,000.00	\$7,000.00	11,333	18,000
2	Paris	\$15,000.00	\$6,000.00	\$11,000.00	10,667	15,000
3	Mumbai	\$12,000.00	\$5,000.00	\$3,000.00	6,667	12,000
Total Sales		1	1	1		
Cost		\$83,000.00	\$84,000.00	\$43,000.00		
Profit		1	1	1		
10% Bonus		1	1	1		
Total Sales greater than 30,000		1	1	1		
No Sales greater than 30,000		1	1	1		

- a. Set the Text alignment, Columns width and high appropriately.
- b. Use AutoFill to put the Series Numbers into cells A5:A7.
- c. Format cells C3:G7, C8:E11, C13:E13 to include dollar sign with two decimal places.
- d. Find the Average Sales and Maximum Sales for each City.
- e. Find the Total Sales for each Month.
- f. Calculate the Profit for each month , where profit = Total Sales – Cost
- g. Calculate the 10% Bonus, which is 10% of the Profit.
- h. Find the Total Sales for each Month; only for sales greater than 30,000.
- i. Find the No of Sales for each Month; only for sales greater than 30,000.
- j. Create the following Charts:



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2018

Ph. D Course Work Examination
RESEARCH METHODOLOGY (PAPER I)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Answer any five questions:

- 1 (a) Explain various types of research with suitable example? [10]
- (b) Explain the importance of literature survey in research. [5]
- (c) State the various styles of citation. Why citation is important in research? [2+3=5]
- 2 (a) What is measurement and Scaling? Give an overview of primary scales of measurement with suitable example. [10]
- (b) Explain the statistical approaches used to ensure reliability of a scale. [10]
- 3 (a) What is validity of scale? Explain the various types of validity of a research instrument. [10]
- (b) Explain Likert type scale with suitable example. [10]
- 4 (a) What is parametric and non-parametric statistics? Make a list of parametric and non-parametric statistics. [4+4=8]
- (b) Find the multiple linear regression equation of A on B and C from the following data:

A	4	6	7	9	13	15
B	15	12	8	6	4	3
C	30	24	20	14	10	4

[12]

- 5 (a) What are the general guidelines to be followed for writing a Ph.D. thesis? [10]
- (b) Describe briefly the different types of research report. What are the components of a technical report? [4+6=10]

Define null and alternative hypothesis in testing of hypothesis.

[4]

What are the different types of errors that may occur in testing of hypothesis.

[4]

The average marks in Research Methodology of a sample of 100 Ph. D. Students was 61 with s.d. 6 marks. Could this have been a random sample from a population with average 50?

[6]

Two samples of sizes 10 and 14 were taken from two populations with s.d. 3.5 and 5.2. The sample mean were found to be 20.3 and 18.6. Test whether the mean of two populations are the same at 5% level of significance. [Confidence value=2.0739 for 22 d.f. at 5% level of significance]

[6]

(a) In a study the researchers want to test a new drug. They split the participants into three conditions (40mg, 80mg and 120mg), then ask them to rate their recovery level on a scale of 1-10. Are there any differences among the three conditions at 5% level of significance? Also apply the post-hoc test. $[F(0.05;2,18) = 3.55, \text{ d.f. } (18,3)=3.61]$

40mg	80mg	120mg
10	8	7
9	9	6
9	6	5
8	5	5
7	4	4
6	5	3
5	3	2

[8 + 2 = 10]

(b) What are the parametric and non-parametric applications of chi-square test? Two research workers classified some people in income groups on the basis of sampling studies. Their results are as follows:

Investigators	Income groups				Total
	Poor	Lower-Middle	Upper-Middle	Rich	
A	100	60	30	10	200
B	90	50	120	40	300
Total	190	110	150	50	500

[2 + 8 = 10]

Test if the sampling technique of the research workers is defective. [Chi-square value = 7.815 at 5% level with 3 d.f.]

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2018

Ph. D Course Work Examination
COMPUTER APPLICATIONS (PAPER II)

Full Marks- 100

Time- 3 hours

The figures in the margin indicate full marks.

Answer any five questions

1. Answer the following questions:

- a) Explain the use of computers in different phases of research. (10)
- b) Explain the different tools and application used in the research process. (10)

2. Answer the following questions:

- a) Explain the advantages and disadvantages of open source software for the enterprise. (10)
- b) Define Plagiarism. What are its types? How to avoid plagiarism? (2+2+6=10)

3. Answer the following questions:

- a) What is computer network topology? Explain the different topologies used in computer network. (10)
- b) Explain the different connecting media with respect to wired network. (10)

4. Answer the following questions:

- a) What is OSI model? Explain the functions of different layers of OSI model. (10)
- b) Explain the main features of object oriented programming language. (10)

5. Answer the following questions:

- a) Explain the basic rules in computer communication. (10)
- b) Define operating system. Explain the different functions of OS. (10)

6. Answer the following questions

- a) What are the decision control statements? Explain them with examples? (10)
- b) Explain the role of DBA in organization. (10)

7. Write the short notes on

(5x4=20)

- a) Email
- b) Computer security
- c) TCP/IP
- d) EBooks and virtual Library