No. of Printed Pages : 2 **MCSL–216(SET-I)**

MASTER OF COMPUTER APPLICATIONS

(MCA-NEW)

Term-End Practical Examination

June, 2025

MCSL-216(SET-I) : DAA AND WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note **:** *(i) This question paper comprises of* ***two*** *compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement a recursive binary search algorithm to search for a number 100 in the following array of integers : 10

10 35 40 45 50 55 60 65 70 100

(b) Implement Euclid's algorithm to find GCD of two numbers 15265 and 15. Also calculate the number of times mod and assignment operations will be required. 10

2. Design a form to book a ticket for the train. The form should have relevant fields (make suitable assumptions). Further, the form should have submit and Reset button. Now, perform the following : 20

(a) Use JavaScript to validate all the fields in the form.

(b) Submit button should enter the data of the fields (in the form) into the database.

(c) While submitting the form, error message should be shown, if any field in the form is left blank.

(d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 3 **MCSL–216(SET-II)**

MASTER OF COMPUTER APPLICATIONS

(MCA-NEW)

Term-End Practical Examination

June, 2025

MCSL-216(SET-II) : DAA AND WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note **:** *(i) This question paper comprises of two compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement multiplication of two matrices A[3, 3] and B[3, 3] and calculate : 10

   (i) how many times the innermost and the outermost loops will run ?

(ii) Total number of addition and multiplications in computing the multiplication of matrix A and B.

(b) Implement merge sort algorithm to sort the following list (show the process step by step) : 10

200 150 50 100 75 25 10 5

2. Design a form to book a ticket to the cultural show at any auditorium. The form should have relevant fields (make suitable assumptions). Further, the form should have submit and reset button. Now, perform the following : 20

(a) Use JavaScript to validate all the fields in the form.

(b) Submit button should enter the data of the fields (in the form) into the database.

(c) While submitting the form, error message should be shown, if any field in the form is left blank.

(d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 2 **MCSL–216(SET-III)**

MASTER OF COMPUTER APPLICATION (MCA-NEW)

Term-End Practical Examination

June, 2025

MCSL-216(SET-III) : DAA AND WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note **:** *(i) This question paper comprises of two compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for Viva-voce.

1. (a) Implement the task scheduling algorithm, to minimize the total amount of time spent, for the following problem : 10

Job	Service time
1	5
2	10
3	7
4	8

(b) Implement Quick Sort's algorithm, to sort the following list of elements : 10

12 20 22 16 25 18 8 10 6 15

2. Design a form for registering to a conference, the form should have relevant fields (make suitable assumptions). Further, the form should have submit and reset button. Now, perform the following : 20

(a) Use JavaScript to validate all fields in the form.

(b) Submit button should enter the data of the fields (in the form) in to the database.

(c) While submitting the form, error message should be shown, if any field in the form is left blank.

(d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 2 **MCSL–216(SET-IV)**

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Practical Examination

June, 2025

MCSL-216(SET-IV) : DAA AND WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note **:** *(i) This question paper comprises of two compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement the fractional Knapsack algorithm and find out optimal result for the following problem instance : 10

$(P_1, P_2, P_3, P_4, P_5, P_6, P_7) = (15, 5, 20, 8, 7, 20, 6)$

$(W_1, W_2, W_3, W_4, W_5, W_6, W_7) = (3, 4, 6, 8, 2, 2, 3)$

Maximum Knapsack capacity = 18.

(b) Implement selection sort algorithm to sort the following list of numbers : 10

55 25 15 40 60 35 17 65 75 10

2. Design a form for booking appointment with a doctor. The form should have relevant fields (make suitable assumptions). Further, the form should have submit and reset button. Now, perform the following : 20

(a) Use JavaScript to validate all the fields in the form.

(b) Submit button should enter the data of the form fields in the database.

(c) Reset button should reset all the fields to blank.

(d) While submitting the form, error message should be shown, if any field in the form is left blank.

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No. of Printed Pages : 2 **MCSL-216(Set-I)**

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Practical Examination

December, 2024

MCSL-216(Set-I) : DAA & WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note : *(i) This question paper comprises of* ***two*** *compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement fractional Knapsack algorithm and find out optimal result for the problem instance given below : 10

$(P_1, P_2, P_3, P_4, P_5) = (20, 30, 40, 32, 55)$

$(W_1, W_2, W_3, W_4, W_5) = (5, 8, 10, 12, 15)$

Given maximum Knapsack capacity = 20

(b) Implement merge sort algorithm to sort the following list of numbers : 10

200, 150, 50, 100, 25, 75, 10, 5

2. Design a form for booking room through a hotel website. The form should have relevant fields. (Make suitable assumptions). Further, the form should have submit and reset button. Now perform the following : 5+5+5+5=20

   (a) Use JavaScript to validate all the fields in the form.

   (b) Submit button should enter the data of the fields in the database.

   (c) Error message should be shown if text field is left blank.

   (d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 2 **MCSL-216(Set-II)**

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Practical Examination

December, 2024

MCSL-216(Set-II) : DAA & WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note : *(i) This question paper comprises of* ***two*** *compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement the multiplication of two matrices A [4, 4] and B [4, 4] and calculate the following : 10

   (i) How many times the innermost and the outermost loop will run ?

   (ii) Total number of multiplications and additions in computing the multiplication of given matrices.

   (b) Implement the task scheduling algorithm on your system to minimize the total

amount of time spent in the system for the following problem : 10

Job	Service Time
1	5
2	10
3	7
4	8

2. Design a form to reserve seat in train, through Railway's website. The form should have relevant fields. (Make suitable assumptions). The form should have submit and reset button. Now, perform the following : 5+5+5+5=20

   (a) Use JavaScript to validate all the fields in the form.

   (b) Submit button should enter the data of the fields into the database.

   (c) Error message should be shown if text field is left blank.

   (d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 3 **MCSL-216(Set-III)**

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Practical Examination

December, 2024

MCSL-216(Set-III) : DAA & WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note : *(i) This question paper comprises of* ***two*** *compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement Bubble sort algorithm for the following list of numbers : 10

55, 25, 15, 40, 60, 35, 17, 65, 75, 10

Calculate the following :

(i) Number of exchange operations are performed.

(ii) Number of times comparison operations are performed.

(iii) Number of times the inner and outer loop will iterate.

(b) Implement Huffman's coding algorithm and run on the problem instance given below : 10

Letters	Frequency
A	10
B	7
I	15
M	8
S	10
X	5
Z	2

2. Design a form to take admission in any course offered by any university through its website. The form should have relevant fields. (Make suitable assumptions). The form should have submit and reset button. Now, perform the following : 5+5+5+5=20

(a) Use JavaScript to validate all the fields in the form.

(b) Submit button should enter data of fields into the database.

(c) Error message should be shown if any text field is left blank.

(d) Reset button should reset all the fields to blank.

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No. of Printed Pages : 2 **MCSL-216(Set-IV)**

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Practical Examination

December, 2024

MCSL-216(Set-IV) : DAA & WEB DESIGN LAB

Time : 2 Hours *Maximum Marks : 50*

Note : *(i) This question paper comprises of* ***two*** *compulsory questions, each of 20 marks.*

(ii) Rest 10 marks are for viva-voce.

1. (a) Implement selection sort algorithm to sort the following list of numbers : 10

55, 25, 15, 40, 60, 35, 17, 65, 75, 10

Calculate the following :

(i) Number of exchange operations are performed.

(ii) Number of times comparison operations are performed.

(b) Implement a recursive binary search on the system to search for a number 100 in the following array of integers given below : 10

10 35 40 45 50 55 60 65 70 100

2. Design a form for conducting the survey on customer satisfaction towards the product 'abc' of a company 'XYZ'. The form should have relevant fields. (Make suitable assumptions). The form should have submit and reset button. Now, perform the following : 5+5+5+5=20

(a) Use JavaScript to validate all the fields in the form.

(b) Submit button should enter the data of fields in the database.

(c) Error message should be shown if text field is left blank.

(d) Reset button should reset all the fields to blank.

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