

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – III

| | | | |
|---------|---------------------------------------|------------------------|---|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course | : B.Tech. | Subject Code | : UMA1003 |
| Branch | : CS (Normal),CS (DS),ME, EC,EE,CE | Subject Name | : Mathematics-I |
| Group | : ALL | Name of Faculty Member | : Dr. P. Srivastava, Dr. D.K. Jaiswal, Dr. V. Verma, Dr. Vimlesh, Dr. D. Yadav, Dr. O. Misra Dr. A.K. Agarwal, Dr. A. Kumar, Dr. A. Mishra, Dr. Anil Kumar |
| Date | 01/12/2023 | Duration | 45 min. |
| | | Max. Marks | 30 |
| | | SET No. | C |

University Roll No.

2 0 2 3 1 0 1 0 1 1 4 0 0 0 9

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Applying | Analyze | Evaluate | Create | Total |
|----------|------------|----------|---------|----------|--------|-------|
| 4 | 4 | 12 | 10 | | | 30 |

Course Outcomes for Assessment in this Test:

| CLOs | Course Outcome |
|------|--|
| CLO1 | Remember, Understand and Apply the Differential and integral calculus, Beta and Gamma functions, Taylor's and Maclaurin theorems, Maxima and minima. |
| CLO2 | Remember, Understand and Analyze convergence of sequence and series of functions. |
| CLO3 | Understand and Apply multivariable calculus. |
| CLO4 | Recall, Classify, Solve and Determine matrices. |

| | Pattern | Mapping COs | Marks |
|--|---------|-------------|-------|
| | | | |

Very short answer type questions.

[2X4=8]

| | | | | | |
|------|----|--|------------|------|-----|
| Q. 1 | a) | Define Limit of a function of two variable. | Remember | CLO3 | [2] |
| | b) | Write the physical meaning of divergence of a function at a point. | Understand | CLO3 | [2] |
| | c) | Write the statement of Euler's Theorem for homogeneous function. | Remember | CLO3 | [2] |
| | d) | If $z = x^2 + 2y^2$ then show that $\frac{\partial^2 z}{\partial x^2} - \frac{1}{2} \frac{\partial^2 z}{\partial y^2} = 0$. | Remember | CLO3 | [2] |

Short answer type questions.

[4X3=12]

| | | | | | |
|------|----|---|-------|------|-----|
| Q. 2 | a) | Verify Euler's theorem of the function $u = \frac{x^4 y^4}{x^3 + y^3}$ | Apply | CLO3 | [4] |
| | b) | Test the function $f(x, y) = \begin{cases} \frac{x^3+y^3}{x^2+y^2}, & x, y \neq 0 \\ 0, & x, y = 0 \end{cases}$ for continuity. | Apply | CLO3 | [4] |
| | c) | Find the gradient of the scalar function $\log(x^3 + y^3 + z^3)$ at a point (1, -2, 3) | Apply | CLO3 | [4] |

Long answer type questions.

[5X2=10]

| | | | | | |
|------|----|---|---------|------|-----|
| Q. 3 | a) | Find maxima and minima of the function $f(x, y) = y^3 + 4xy + 3y^2 + x^2$ | Analyze | CLO3 | [5] |
| | b) | Find the directional derivative of function $x^2y^2z^2$ at the point (1, -1, -1) in the direction of vector $x y \hat{i} + y z \hat{j} + z x \hat{k}$ | Analyze | CLO3 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – III

| | | | |
|---------|----------------------|------------------------|---|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course | : B-TECH | Subject Code | : UCS1803 |
| Branch | : CS(DS+AI), (CC+AI) | Subject Name | : Python |
| Group | : ALL | Name of Faculty Member | : Ms. Mahek, Mr. Anand Kumar & Mr. Kunal Khadse |
| Date | 02/12/2023 | Duration | 45 min |
| | | Max. Marks | 30 |
| | | SET No. | II |

University Roll No. 202310101140009 (To be filled by the Student)

| Assessment Pattern as per Bloom's Taxonomy: | | | | | | |
|---|------------|-------|---------|----------|--------|-------|
| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
| 11 | 2 | 13 | 4 | 0 | 0 | 30 |

Course Outcomes for Assessment in this Test: CLO1

| CLOs | Course Learning Outcome |
|------|--|
| CLO1 | Understand the importance of analytics and how it transforming the world today. |
| CLO2 | Describe a reporting application, its interface, and the different report types. |
| CLO3 | Explain what analytics is, the various types of analytics, and how to apply it. |

Very short answer type questions.

| | | | | |
|------|---|------------|------|-----|
| Q. 1 | a) Define "Polymorphism." | Remember | CLO1 | [2] |
| | b) Explain: <ul style="list-style-type: none"> • NameError • ValueError | Understand | CLO2 | [2] |
| | c) How do we handle exception in python. | Remember | CLO1 | [2] |
| | d) What are the concepts of OOP's. | Remember | CLO1 | [2] |

Short answer type questions.

| | | | | |
|------|--|--------|------|-----|
| Q. 2 | a) Construct a program to create a text file and add data in it, by taking user input. | Analyz | CLO2 | [4] |
| | b) Develop the code to explain append() and write() method in file handling. | Apply | CLO2 | [4] |
| | c) Construct a code to create three classes: 'A', 'B', and 'C'. Have class 'A' and 'B' inherit from 'object', and then create class 'C' that inherits from both 'A' and 'B'. | Apply | CLO2 | [4] |

Long answer type questions

| | | | | |
|------|---|----------|------|-----|
| Q. 3 | a) What is Try and catch block in exception handling. Explain with example. | Remember | CLO2 | [5] |
| | b) Develop the code to explain single-level and multi-level inheritance. | Apply | CLO2 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – III

| | | | |
|-----------|--|-------------------------|--|
| Session : | 2023-24 (Odd Sem) | Semester: | I |
| Course : | B. Tech | Subject Code: | UCS1801/ BCS1701 |
| Branch : | CS(DSAI)/CS(CCAI)/EC/EE/CE/ME/BT | Subject Name: | Programming for Problem Solving |
| Group : | CS(DSAI)11,12,13,14,15,16,17,18, 19,20, CS (CCAI)-11,12,EC/EE/CE/ME-11,BT-11,12 | Name of Faculty member: | Mr. K. C. Maurya / Ms. Sakshi Singh / Ms. Reeta Bhaskar /Mr. Neelesh Mishra / Mr. Anil Kumar |

Date: 28/11/2023 Duration: 45 Minutes Max. Marks: 30 SET No.: IV

University Roll No.

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|--|--|--|--|--|--|--|--|--|--|--|--|

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------|------------|-------|---------|----------|--------|-------|
| 6 | 7 | 15 | - | 2 | - | 30 |

Course Outcomes for Assessment in this Test:

| COs | Course Outcome | Pattern | Mapping COs | Marks |
|-----|---|---------|-------------|-------|
| CO1 | Remember and Understand the basic concepts of Programming for Problem Solving.. | | | |
| CO2 | Develop an understanding about the concept keywords and statements. | | | |
| CO3 | Apply the concepts of formation and functions in Programming for Problem Solving. | | | |
| CO4 | Analyze and evaluate Software and memory | | | |

Very short answer type questions. Write the answer in one or two lines.

[4X2=8]

| | | | | | |
|-----|----|--|------------|-----|---|
| Q.1 | a) | How many bytes of memory required to store an array float X[50]. | Remember | CO1 | ? |
| | b) | Explain about int and void keywords? | Understand | CO2 | 2 |
| | c) | Evaluate $(456)_{10} = (?)_8$ | Evaluate | CO4 | 2 |
| | d) | Draw the flowchart to print table. | Apply | CO3 | 2 |

Short answer type questions. Write the answer in 250 words.

[3X4=12]

| | | | | | |
|-----|----|--|----------|-----|---|
| Q.2 | a) | What are the advantages of using functions? | Remember | CO1 | 4 |
| | b) | Write a program in C to find the area of circle. | Apply | CO3 | 4 |
| | c) | Write a C program to add two matrices of size 2×3 . | Apply | CO3 | 4 |

Long answer type questions. Write the answer in 500 words.

[2X5=10]

| | | | | | |
|-----|----|---|------------|-----|---|
| Q.3 | a) | What is topology? Explain the different types of topology with diagram. | Understand | CO2 | 5 |
| | b) | Write a program to find the Fibonacci series up to the given number. | Apply | CO3 | 5 |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test - III

| | | | |
|---------------|------------------------------------|-------------------------|--|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course Branch | : B.Tech. | Subject Code | : UCY1101/BCY1101 |
| Branch | : CS (DS+AD)(CC+AD)/BT/EC/EE/ME/CE | Subject Name | : Chemistry |
| Group | : All | Name of Faculty Members | : Dr. Kishna Sevastara Dr. Ram Prakash Tiwari Dr. Dolly Kumar Dr. Pragati Tripathi Mr. Sudeep Mishra |
| Date | 30/11/2023 | Duration | 45 min. |
| | | Max. Marks | 30 |
| | | SET No. | A |

University Roll No. **2023101014009** (To be filled by the Student)

| Assessment Pattern as per Bloom's Taxonomy: | | | | | | |
|---|------------|-------|---------|----------|--------|-------|
| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
| 04 | 15 | 07 | 04 | . | . | 30 |

| Course Outcomes for Assessment in this Test: | | | | | | |
|--|--|--|--|--|--|--|
| CLOs | Course Outcome | | | | | |
| CLO1 | Explain and examine periodic properties such as ionization potential, electronegativity and oxidation state. | | | | | |
| CLO4 | Summarize chemical reaction that are used in the synthesis of molecules and their utility. | | | | | |

| Q. No. | Question | Pattern | Mapping CLOs | Marks | Section A [4X2=08] | |
|--------|--|------------------------|--------------|------------|--------------------|----------|
| | | | | | Understand | Remember |
| 1. 1 | a) Explain the term entropy. b) Find out the oxidation state of F ₂ in FeO and K ₂ [Fe(CN) ₆]. c) Define polarizing power with an example. d) Show the electronic configuration of Na & Cl. | Understand Remember | CLO4 CLO1 | [2] [2] | | |
| | | Remember | CLO1 | [2] | | |
| | | Apply | CLO1 | [2] | | |
| 1. 2 | a) Distinguish between electronegativity and electron affinity with examples. b) What is corrosion? Explain with chemical reactions. c) What is Pearson's HSAB principle? Explain. | Analyze | CLO1 | [4] | Section B [3X4=12] | |
| | | Understand | CLO4 | [4] | | |
| | | Understand | CLO1 | [4] | | |
| 3 | Section C [2X5=10] | | Understand | CLO4 | [5] | |
| 3. 1 | a) Explain Nernst equation and its applications. b) Calculate the standard EMF of a cell which involves the following cell reaction: $Zn + Cu^{+2} \rightarrow Zn^{+2} + Cu$ Given that $E^\circ_{Zn/Zn^{+2}} = 0.76V$ and $E^\circ_{Cu^{+2}/Cu} = 0.34V$ | Understand | CLO4 | [5] | | |
| | | Apply | CLO4 | [5] | | |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – III

| | | | |
|---------|--------------------------|------------------------|---|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course | : B. Tech. | Subject Code | : BHUI701/UEG1801 |
| Branch | : CE, ME, EE, EC, BT, CS | Subject Name | : English |
| Group | : All groups | Name of Faculty Member | : Dr. Jitendra Kr. Yadav, Dr. Akhilesh Kumar Sharma, Dr. Abhimanyu Pandey, Ms. Aisha Haleem |
| Date | 29/11/2023 | Duration | 45 min. |
| | | Max. Marks | 30 |
| | | SET No. | 3 |

University Roll No.

2 0 2 3 1 0 1 1 4 5 6 7 8 9

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------|------------|-------|---------|----------|--------|-------|
| 8 | 8 | 9 | 5 | - | - | 30 |

Course Outcomes for Assessment in this Test:

| COs | Course Outcome |
|-----|---|
| CO1 | Recall and explain different techniques of word formation; and demonstrate knowledge of synonyms, antonyms and skills of sensible writing. |
| CO2 | Illustrate essential techniques and features of effective writing and make use of them in written communication. |
| CO3 | Identify and analyse common errors in English and solve exercises based on them; apply acquired knowledge and skills of oral and written communication in personal and professional life. |
| CO4 | Take part in individual and group communication activities; and determine and invent new forms and methods of communication to as per the situation. |

Pattern COs Marks

Very short answer type questions. Write the answer in one or two lines.

[2X4=8]

| | | | | |
|------|--|----------|-----|-----|
| Q. 1 | a) What is prepositional phrase? Give some suitable examples and use them in your own words. b) Differentiate the term 'describing' and 'defining'. c) Define "paraphrasing" in brief. d) Illustrate the different types of articles and construct some sentences using them. | Remember | CO3 | [2] |
| | | Remember | CO4 | [2] |
| | | Remember | CO4 | [2] |
| | | Remember | CO3 | [2] |

[4X3=12]

Short answer type questions.

| | | | | |
|------|--|------------|-----|-----|
| Q. 2 | a) How do misplaced modifiers affect your conversation? Explain giving suitable examples. b) Put appropriate articles (a, an & the) in the following sentences. a) I likeblue T-shirt over there better thanred one. b) Their car does 150mileshour. c) Where'sUSB drive I lent you last week. d) Is your mother working inold office building? c) Discuss different 'clichés' that distort the meaning of a conversation. | Understand | CO3 | [4] |
| | | Apply | CO3 | [4] |
| | | Understand | CO3 | [4] |

[2X5=10]

Long answer type questions

| | | | | |
|------|--|---------|-----|-----|
| Q. 3 | a) Explain the different elements of a paragraph by giving appropriate examples. b) Show your acquaintance with the importance of 'examples or evidence' in sensible writing. | Analyse | CO2 | [5] |
| | | Apply | CO4 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test - II

| | | | | | | | |
|---------------------|---------------------|-------------------------------|---|------------|----|---------|----|
| Session | : 2023-24(Odd Sem.) | Semester | : I | | | | |
| Course | : B. Tech. | Subject Code | : BCS1701/UCS1801 | | | | |
| Branch | : CS | Subject Name | : Programming for Problem Solving | | | | |
| Group | : All | Name of Faculty Member | : Mr. Neelesh Mishra, Mr. K.C. Maurya, Mr. Anil Kumar, Ms. Reeta, Ms. Shakshi Singh | | | | |
| Date | 03/11/2023 | Duration | 45 min. | Max. Marks | 30 | SET No. | II |
| University Roll No. | 202316101190009 | (To be filled by the Student) | | | | | |

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------|------------|-------|---------|----------|--------|-------|
| 4 | 11 | 15 | - | - | - | 30 |

Course Outcomes for Assessment in this Test:

| Cos | Course Outcome |
|-----|---|
| CO1 | Remember and Understand the basic concepts of Programming for Problem Solving. |
| CO2 | Develop an understanding about the concept keywords and statements. |
| CO3 | Apply the concepts of formation and functions in Programming for Problem Solving. |
| CO4 | Analyze and evaluate Software and memory. |

| | Pattern | Mapping COs | Marks |
|--|---------|-------------|-------|
| | | | |

Very short answer type questions. Write the answer in one or two lines.

[4X2=8]

| | | | | | |
|-----|----|--|----------|-----|-----|
| Q1. | a) | What is naming concept of variables? Explain with example. | Remember | CO1 | [2] |
| | b) | Define the increment (pre and post) operator with example. | Remember | CO1 | [2] |
| | c) | Define the assignment operator with example. | Remember | CO1 | [2] |
| | d) | Define data types in C. | Remember | CO1 | [2] |

Short answer type questions. Write the answer in 250-500 words

[3X4=12]

| | | | | | |
|-----|----|--|------------|-----|-----|
| Q2. | a) | Differentiate between break and continue with suitable example. | Understand | CO2 | [4] |
| | b) | Write program in C to check whether the given number is even or odd. | Understand | CO2 | [4] |
| | c) | Write program in C to find sum of the individual digits of a given number. | Understand | CO2 | [4] |

Long answer type questions

[2X5=10]

| | | | | | |
|-----|----|---|-------|-----|-----|
| Q3. | a) | Write a calculator program in C language to do simple operations like addition, subtraction, multiplication and division. Use switch statement in your program. | Apply | CO3 | [5] |
| | b) | Write a program to display the following pattern: 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 1 2 3 4 5 6 1 2 3 4 5 6 7 | Apply | CO3 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – II

| | | | |
|---------|--------------------------|------------------------|--|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course | : B. Tech. | Subject Code | : BHU1701/UEG1801 |
| Branch | : CE, ME, EE, EC, BT, CS | Subject Name | : English |
| Group | : All groups | Name of Faculty Member | : Dr. Jitendra Kumar Yadav, Dr. Akhilesh kr. Sharma, Dr. Abhimanyu Pandey, Ms. Mahima Gupta, Ms. Aisha Haleem |
| Date | 04/11/2023 | Duration | 45 Min |
| | | Max. Marks | 30 |
| | | Set No. | 2 |

University Roll No.

| Assessment Pattern as per Bloom's Taxonomy: | | | | | | | (To be filled by the Student) | |
|--|---|-------|---------|----------|--------|-------|-------------------------------|--|
| Remember | Understand | Apply | Analyze | Evaluate | Create | Total | | |
| 4 | 4 | 13 | 4 | - | 5 | 30 | | |
| Course Outcomes for Assessment in this Test: | | | | | | | | |
| COs | Course Outcomes | | | | | | | |
| CO1 | Recall and explain different techniques of word formation; and demonstrate knowledge of synonyms, antonyms and skills of sensible writing. | | | | | | | |
| CO2 | Illustrate essential techniques and features of effective writing and make use of them in written communication. | | | | | | | |
| CO3 | Identify and analyse common errors in English and solve exercises based on them; apply acquired knowledge and skills of oral and written communication in personal and professional life. | | | | | | | |
| CO4 | Take part in individual and group communication activities; and determine and invent new forms and methods of communication to as per the situation. | | | | | | | |

| Very short answer type questions. Write the answer in one or two lines. | | | Pattern | COs | Marks |
|---|----|--|------------|-----|-------|
| Q. 1 | a) | Define coherence in paragraph writing. | Remember | CO2 | [2] |
| | b) | What is the difference between dependent and independent clause? | Remember | CO2 | [2] |
| | c) | Illustrate the use of Exclamation mark in sentences. | Understand | CO2 | [2] |
| | d) | Identify the phrases in the given sentences: i. She put the books on the table. ii. I met him at a club. | Understand | CO2 | [2] |

| Short answer type questions. Write the answer in 250 words. | | | [4X3=12] | | |
|---|----|---|----------|-----|-----|
| Q. 2 | a) | Make use of suitable clauses to complete the given sentences: i) This is the book _____ ii) Christopher would have got a prize _____ iii) The principal rewarded the girl _____ iv) Mani was asked to come to the office _____ | Apply | CO2 | [4] |
| | b) | Identify the given sentences as simple, compound and complex: i) We met rather few people who spoke English. ii) Two minutes ago the child was fast asleep, but now he is wide awake. iii) I guess she just doesn't respect you. iv) I have been on rather too many planes and trains recently. | Apply | CO2 | [4] |
| | c) | Outline major techniques of writing precisely with appropriate examples. | Analyze | CO2 | [4] |

| Long answer type questions. Write the answer in 500 words. | | | [5X2=10] | | |
|--|----|---|----------|-----|-----|
| Q. 3 | a) | Use suitable punctuation marks in the following paragraph: my heart leaps up when i behold a rainbow in the sky wrote william wordsworth the famous poet and most of us share his feelings when we are lucky enough to see a rainbow there is an old saying that a pot of gold is buried at the end of the rainbow but have you ever tried to reach a rainbows end of course its impossible because a rainbow is really just the result of the raindrops refracting and reflecting light from our sun there are seven colors in the rainbow red orange yellow green blue indigo and violet | Apply | CO2 | [5] |
| | b) | Compose a paragraph using the statement, "Students should get limited access to the internet" as topic sentence. | Create | CO2 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY
Internal Test – II

: 2023-24 (Odd Sem.)

: B.Tech.

: CS (Normal),
CS (Specialized),
ME, EC, EE, CE

: ALL

Semester
Subject Code
Subject Name

: I
: UMA1003
: Mathematics-I

Name of Faculty Member

: Dr. P. Srivastava, Dr.
D.K. Jaiswal, Dr. V.
Verma, Dr. Vimlesh, Dr.
D. Yadav, Dr. O. Misra
Dr. A.K. Agarwal, Dr. A.
Singh, Dr. Akhilesh
Mishra

07/11/2023

Duration

45 min.

Max. Marks

30

SET No. A

University Roll No.

2023101170109

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Applying | Analyze | Evaluate | Create | Total |
|----------|------------|----------|---------|----------|--------|-------|
| 8 | 4 | 4 | - | 14 | - | 30 |

Course Outcomes for Assessment in this Test:

| CLOs | Course Outcome | Pattern | Mapping COs | Marks |
|------|--|---------|-------------|-------|
| CLO1 | Remember, Understand and Apply the Differential and integral calculus, Beta and Gamma functions, Taylor's and Maclaurin theorems, Maxima and minima. | | | |
| CLO2 | Remember, Understand and Analyze convergence of sequence and series of functions. | | | |
| CLO3 | Understand and Apply multivariable calculus. | | | |
| CLO4 | Recall, Classify, Solve and Determine matrices. | | | |

Short answer type questions.

[2X4=8]

| | | | | |
|----|---|----------|------|-----|
| a) | Define eigen values and eigen vectors of a matrix. | Remember | CLO4 | [2] |
| b) | Define homogeneous system of equations. | Remember | CLO4 | [2] |
| c) | Write the condition for infinite solutions of a non-homogeneous system of linear equations. | Remember | CLO4 | [2] |
| d) | Define rank of a matrix. | Remember | CLO4 | [2] |

[4X3=12]

Short answer type questions.

Applying CLO4 [4]

| | | | | |
|----|--|------------|------|-----|
| a) | Find the rank of the matrix $A = \begin{bmatrix} 1 & 2 & -2 \\ 0 & 2 & 6 \\ 1 & 3 & 1 \end{bmatrix}$. | Applying | CLO4 | [4] |
| b) | Verify Cayley Hamilton theorem for the matrix $A = \begin{bmatrix} 1 & 2 \\ 4 & 2 \end{bmatrix}$. | Understand | CLO4 | [4] |
| c) | For what value of λ and μ the system of equations $x + y + z = 6$; $x + 2y + 3z = 10$; $x + 2y + \lambda z = \mu$ has unique solution. | Evaluate | CLO4 | [4] |

[10X1=10]

Long answer type questions.

Evaluate CLO4 [10]

| | | | | |
|---|--|----------|------|------|
| 3 | Solve the system of equations, using matrix method: $x + y + z = 6$; $x + 2y + 3z = 14$, $x + 4y + 7z = 30$. | Evaluate | CLO4 | [10] |
|---|--|----------|------|------|

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test – II

Session
Course
Branch

: 2023-24 (Odd Sem.)
: B.Tech.
: CE/ME/EE/EC/BT/CS
(DS+AI+CC+CS+BC)

Semester
Subject Code
Subject Name

: I
: UCY1801/BCY1701
: Chemistry

Group

: All

Name of Faculty Members : Dr. Krishna Srivastava
Dr. Ram Prakash Tiwari
Dr. Dolly Kumari
Dr. Pragati Tripathi
Dr. Sudeep Kumar Mishra

| | | | | | | | |
|------|------------|----------|---------|------------|----|---------|---|
| Date | 06/11/2023 | Duration | 45 min. | Max. Marks | 30 | SET No. | D |
|------|------------|----------|---------|------------|----|---------|---|

University Roll No.

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------|------------|-------|---------|----------|--------|-------|
| 02 | 13 | 06 | 09 | - | - | 30 |

Course Outcomes for Assessment in this Test:

| CLOs | Course Outcome | Pattern | Mapping CLOs | Marks |
|------|--|---------|--------------|-------|
| CLO2 | Interpret and categorize the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques. | | | |
| CLO3 | Interpret microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces, intermicroscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces. | | | |

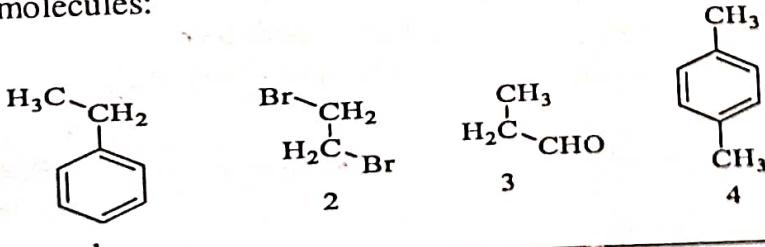
Section A

[4X2=08]

| | | | | | |
|------|----|--|------------|------|-----|
| Q. 1 | a) | Explain different types of vibrations present in CO ₂ molecule. | Understand | CLO2 | [2] |
| | b) | Describe the principle of NMR spectroscopy? | Understand | CLO2 | [2] |
| | c) | Identify the molecules which are IR active: N ₂ , HCl, ClBr, O ₂ . | Apply | CLO2 | [2] |
| | d) | Define critical temperature (T _c). | Remember | CLO3 | [2] |

Section B

[3X4=12]

| | | | | | |
|------|----|---|------------|------|-----|
| Q. 2 | a) | Explain the different electronic transitions possible in a molecule. | Understand | CLO2 | [4] |
| | b) | Predict the number of proton (¹ H-NMR) signals in the following molecules:  | Apply | CLO2 | [4] |
| | c) | Distinguish between equivalent and non-equivalent protons in NMR spectroscopy. | Analyze | CLO2 | [4] |

Section C

[2X5=10]

| | | | | | |
|------|----|--|------------|------|-----|
| Q. 3 | a) | What is magnetic resonance imaging (MRI)? Discuss the applications of NMR spectroscopy. | Understand | CLO2 | [5] |
| | b) | Outline the concept of intermolecular forces. What kind of forces are present between the molecules of hydrogen fluoride and ammonia, explain. | Analyze | CLO3 | [5] |

Internal Test – II

| | | | |
|---------|----------------------|------------------------|---|
| Session | : 2023-24 (Odd Sem.) | Semester | : I |
| Course | : B-TECH | Subject Code | : UCS1803 |
| Branch | : CS(DS+AI), (CC+AI) | Subject Name | : Python |
| Group | : ALL | Name of Faculty Member | : Mr. Kunal Khadse, Ms. Mahek & Mr. Anand Kumar |
| Date | 08/11/2023 | Duration | 45 min |
| | | Max. Marks | 30 |
| | | SET No. | I |

University Roll No. **26231010119065** (To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create. | Total |
|----------|------------|-------|---------|----------|---------|-------|
| 4 | 2 | 20 | 4 | 0 | 0 | 30 |

Course Outcomes for Assessment in this Test: CLO1

| CLOs | Course Learning Outcome |
|------|--|
| CLO1 | Understand the importance of analytics and how it transforming the world today. |
| CLO2 | Describe a reporting application, its interface, and the different report types. |
| CLO3 | Explain what analytics is, the various types of analytics, and how to apply it. |

Very short answer type questions.

| | | | | |
|------|--|------------|------|-----|
| Q. 1 | a) What is the use of "Continue" statement? | Remember | CLO1 | [2] |
| | b) Develop a code to find the occurrence of value "2" in the given tuple. T1= (2,4,3,5,6,2,4,7,8,2,2,9,5,1) | Apply | CLO2 | [2] |
| | c) What is "String-Slicing"? Give example also. | Remember | CLO1 | [2] |
| | d) Compare List and set. | Understand | CLO1 | [2] |

[4×2=8]

[3×4=12]

Short answer type questions.

| | | | | |
|------|--|--------|------|-----|
| Q. 2 | a) Build a code that checks weather you are eligible for voting or not. If your age is less than 10, print "You are a kid", if your age is more than 10 and less than 18, print "You are adult but you can't vote", if your age is more than 18, print "you can vote". | Apply | CLO2 | [4] |
| | b) Build a code that print the following pattern using control statement: 10 9 7 6 4 3 2 1 | Apply | CLO2 | [4] |
| | c) List any 5 methods that you can apply on Set (give example also). | Analyz | CLO2 | [4] |

[2×5=10]

Long answer type questions

| | | | | |
|------|--|-------|------|-----|
| Q. 3 | a) Construct an empty dictionary as "Student_detail" and give user input any 5-student name as key and roll number as value. | Apply | CLO2 | [5] |
| | b) Construct a function that calculates the average of a list. L=[3,6,4,5,6,6,2,7,0] | Apply | CLO2 | [5] |

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

: 2023 -24 (Odd Sem.)
 : B.Tech
 : CE/ME/EE/PC/BT/CN
 (DS+AI+CC+CS+BC)
 : All

Internal Test - I

Semester : I
 Subject Code : BCY1701/I/CY1801
 Subject Name : Chemistry

Name of Faculty Member : Dr. Krishna Shrivastava
 Dr. R.P. Tiwari
 Dr. Dolly Kushwaha
 Dr. Pragati Tripathi

| | | | | | | |
|-----------|----------|------------|------------|----|---------|---|
| 27/9/2023 | Duration | 45 minutes | Max. Marks | 30 | SET No. | A |
|-----------|----------|------------|------------|----|---------|---|

University Roll No.

202310101140009

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| member | Understand | Apply | Analyze | Evaluate | Create | Total |
|--------|------------|-------|---------|----------|--------|-------|
| 10 | 04 | - | 11 | 5 | - | 30 |

Course Learning Outcomes for Assessment in this Test:

| CLOs | Course Learning Outcome |
|------|--|
| CLO1 | Explain and examine periodic properties such as ionization potential, electronegativity and oxidation states. |
| CLO2 | Interpret and categorize the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques. |
| CLO3 | Interpret microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces. intermicroscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces. |
| CLO4 | Summarize chemical reactions that are used in the synthesis of molecules and their utility |

| Pattern | Mapping COs | Marks |
|---------|-------------|-------|
|---------|-------------|-------|

Very short answer type questions. Write the answer in one or two lines.

[2X4=8]

| | | | | |
|------|--|----------|------|-----|
| 1 a) | Show the bond order of H_2^+ . | Remember | CLO3 | [2] |
| b) | Distinguish between SOMO and LUMO. | Analyze | CLO3 | [2] |
| c) | What do you mean by aromaticity? | Remember | CLO3 | [2] |
| d) | Which orbital has more energy bonding or anti-bonding? Show the energy order of t_2 and e for tetrahedral complexes. | Remember | CLO3 | [2] |

Short answer type questions. Write the answer in 250-500 words

[4X3=12]

| | | | | |
|------|---|------------|------|-----|
| 2 a) | List the following in increasing bond order: O_2 , O_2^+ , O_2^{2-} and O_2^- . | Analyze | CLO3 | [4] |
| b) | Show the crystal field stabilization energy (CFSE) for high spin d^4 octahedral complex. | Understand | CLO3 | [4] |
| c) | An electron is confined in a one-dimensional box of length 1 \AA . Calculate its ground state energy in electron volts. | Remember | CLO3 | [4] |

Long answer type questions

[5X2=10]

| | | | | |
|------|--|----------|------|-----|
| 3 a) | Elaborate band theory of solids? Distinguish between n-type and p types of semiconductors. | Evaluate | CLO3 | [5] |
| b) | Discuss about crystal field theory of coordination compounds. Calculate the crystal field splitting for the following complexes. 1. $[Co(NH_3)_6]^{3+}$ 2. $[Co(H_2O)_6]^{2+}$ | Analyze | CLO3 | [5] |

| | | | | |
|-----|----|--|----------|------|
| | c) | Prove that every diagonal element of a skew symmetric matrix is zero. | Apply | CLO4 |
| [1] | | | | |
| Q.3 | a) | Compute the inverse of the matrix $A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$ by elementary row operations. | Evaluate | CLO4 |

Q.3 a) Compute the inverse of the matrix

$$A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$$

by elementary row operations.

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test - I

Session : 2023-24 (Odd Sem.)
 Course : B. Tech.
 Branch : CE, ME, EE, EC, BT, CS
 Group : All groups

Semester : I
 Subject Code : BHU1701/UEG1801
 Subject Name : English
 Name of Faculty Member : Dr. Jitendra Kumar Yadav,
 Dr. Alchlesh kr. Sharma, Dr. Abhilmanu Pandey, Ms. Mahima Gupta, Ms. Aishu Haleem

| | | | | | | | |
|------|------------|----------|--------|------------|----|---------|---|
| Date | 26/09/2023 | Duration | 45 Min | Max. Marks | 30 | Set No. | 2 |
|------|------------|----------|--------|------------|----|---------|---|

University Roll No.

2 0 2 3 1 8 1 0 1 1 4 0 0 0 9

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Remember | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------|------------|-------|---------|----------|--------|-------|
| 6 | 10 | 5 | 9 | - | - | 30 |

Course Outcomes for Assessment in this Test:

| COs | Course Outcomes |
|-----|---|
| CO1 | Recall and explain different techniques of word formation; and demonstrate knowledge of synonyms, antonyms and skills of sensible writing. |
| CO2 | Illustrate essential techniques and features of effective writing and make use of them in written communication. |
| CO3 | Identify and analyse common errors in English and solve exercises based on them; apply acquired knowledge and skills of oral and written communication in personal and professional life. |
| CO4 | Take part in individual and group communication activities; and determine and invent new forms and methods of communication to as per the situation. |

| | | | |
|--|---------|-----|-------|
| | Pattern | COs | Marks |
|--|---------|-----|-------|

Very short answer type questions. Write the answer in one or two lines. [2X4=8]

| | | | | | |
|------|----|--|------------|-----|-----|
| Q. 1 | a) | Make new words using suitable prefix in the following roots: satisfied, spell, sense, merge. | Remember | CO1 | [2] |
| | b) | Make new words using suitable affix in the following roots: forget, use, state, employee. | Remember | CO1 | [2] |
| | c) | Explain synonyms and antonyms in your words. | Understand | CO1 | [2] |
| | d) | Tell any four types of word formation. | Remember | CO1 | [2] |

Short answer type questions. Write the answer in 250 words. [4X3=12]

| | | | | | |
|------|----|---|------------|-----|-----|
| Q. 2 | a) | Write antonyms of the following words: artificial, bravery, cunning, expand | Understand | CO1 | [4] |
| | b) | Illustrate suffix and prefix in your words with some suitable example. | Understand | CO1 | [4] |
| | c) | Show your acquaintance with the steps of word formation. | Analyse | CO1 | [4] |

Long answer type questions. Write the answer in 500 words. [5X2=10]

| | | | | | |
|------|----|--|---------|-----|-----|
| Q. 3 | a) | Illustrate the essential elements of vocabulary building. | Analyse | CO1 | [5] |
| | b) | Write an essay on "Is India ready for electronic vehicle?" | Apply | CO2 | [5] |

INTERNAL TEST - I

: 2023-24 (Odd Sem.)

: B-TECH

: CS(DS+AI), (CC+AI)

: 11-12, 13-14,
15-16, 17-18,
19-20

Semester

: I

Subject Code

: UCS1803

Subject Name

: Python and Clean Code

Name of Faculty Member

: Mr. Kunal Khadse &
Ms. Mahek Khera

30/09/2023

Duration

45 min

Max. Marks

30

SET No. II

University Roll No.

2 0 2 3 1 0 1 0 1 1 4 0 0 0 9

(To be filled by the Student)

Assessment Pattern as per Bloom's Taxonomy:

| Member | Understand | Apply | Analyze | Evaluate | Create | Total |
|--------|------------|-------|---------|----------|--------|-------|
| 0 | 12 | 14 | 4 | 0 | 0 | 30 |

Course Outcomes for Assessment in this Test: CLO1

| CLOs | Course Learning Outcome |
|------|--|
| CLO1 | Understand the importance of analytics and how it transforming the world today. |
| CLO2 | Describe a reporting application, its interface, and the different report types. |
| CLO3 | Explain what analytics is, the various types of analytics, and how to apply it. |

Very short answer type questions.

[4×2=8]

| | | | | |
|--------|---|------------|-----|-----|
| Q.1 a) | Compare Compiled languages and Interpreted languages. | Understand | CO1 | [2] |
| b) | Explain the term "Indentation." | Understand | CO1 | [2] |
| c) | Explain the output of following code also. =10 _2=20 _2_2=30 print (_+_2+2_2) | Understand | CO2 | [2] |
| d) | Describe Comparison operators with example. | Understand | CO1 | [2] |

[3×4=12]

Short answer type questions.

| | | | | |
|--------|---|------------|-----|-----|
| Q.2 a) | Compare High-level and low-level language. | Understand | CO1 | [4] |
| b) | Develop a python program to print the even numbers in range of 0 to 50 using for loop in reverse order. | Apply | CO2 | [4] |
| c) | Distinguish between Clean-coding and Bad-coding. | Analyze | CO1 | [4] |

[2×5=10]

Long answer type questions

| | | | | |
|--------|--|-------|-----|-----|
| Q.3 a) | Develop a python program to print multiplication table from 2 to 32 using nested for loop. | Apply | CO2 | [5] |
| b) | Develop a python code to calculate the sum of N numbers and factorial of same number. | Apply | CO2 | [5] |

RAMSWAROOP MEMORIAL UNIVERSITY

Internal Test - I

| | | | |
|--------------------|---|-------------------------|---|
| Date 10/10/2023 | Subject CCAI/CS(CCAI)/EC/EE/CE/ME/BT 11,12,13,14,15,16,17,18,19,20, CS 11,12,EC/EE/CE/ME-11,BT-11,12 | Semester: | I |
| | | Subject Code: | UCS1801/BCS1701 |
| | | Subject Name: | Programming for Problem Solving |
| | | Name of Faculty member: | Mr. K. C. Maurya / Ms. Sakshi Singh / Ms. Reeta Bhaskar / Mr. Neelash Mishra / Mr. Anil Kumar |

| | | | | | |
|-----------|------------|-------------|----|----------|----|
| Duration: | 45 Minutes | Max. Marks: | 30 | SET No.: | II |
|-----------|------------|-------------|----|----------|----|

Roll No. _____ (To be filled by the Student)

| Pattern as per Bloom's Taxonomy: | Understand | Apply | Analyze | Evaluate | Create | Total |
|----------------------------------|------------|-------|---------|----------|--------|-------|
| | 11 | - | 5 | 6 | - | 30 |

Outcomes for Assessment in this Test:

Course Outcome

- Remember and Understand the basic concepts of Programming for Problem Solving.
- Develop an understanding about the concept keywords and statements.
- Apply the concepts of formation and functions in Programming for Problem Solving.
- Analyze and evaluate Software and memory.

| | Pattern | Mapping COs | Marks |
|--|---------|-------------|---------|
| | | | [4X2=8] |

| | | | | |
|----|---|------------|-----|---|
| a) | Give the example of 4 input and output devices of each. | Remember | CO1 | 2 |
| b) | Differentiate between RAM and ROM. | Understand | CO2 | 2 |
| c) | $(175.06)_8 = (?)_2$ (Evaluate) | Evaluate | CO4 | 2 |
| d) | What are the applications of computer network? | Remember | CO1 | 2 |

| | | | | |
|----|---|------------|-----|---|
| a) | Discuss the classification of digital computer. | Remember | CO1 | 4 |
| b) | Define operating system. Discuss its types. | Understand | CO2 | 4 |
| c) | $(15D.C8)_{16} = (?)_{10}$ (Evaluate) | Evaluate | CO4 | 4 |

| | | | | |
|----|---|------------|-----|---|
| a) | Draw a block diagram of a computer. Explain the function of each of the blocks. | Analyzing | CO4 | 5 |
| b) | What is computer network? Explain different types of computer network. | Understand | CO2 | 5 |