

NOTICE

Date: 09/08/2023

We are excited to announce that the College will be introducing value-added courses on advanced topics of **Biostatistics and DoE (Design of Experiments)**, as well as **Python and AI/ML**. These courses have been designed to help our students gain a competitive edge in the job market and further studies.

To enroll for these special courses, please fill out the form provided. The courses will begin in **August 2023** and are aimed at enhancing your IT and Data Analytics skills to make you industry-ready.

Please note that **each course** has **only 30 seats** available. In case of more applicants, the selection process will involve suitable screening to identify the best candidates.

The **last date for enrollment** is **14-08-2023**, and there is **no course fee**.


The courses offered are:

1. For **B. PHARM II** year: **Basic Programming with Python and its application in database management, Artificial Intelligence and machine learning (AI/ML) for Pharmacy.**
2. For **B. PHARM IV** year and **M. Pharm I/II** year: **BIOSTATISTICS & DoE FOR PHARMACEUTICAL APPLICATIONS**

Principal

Link for Enrollment: <https://forms.gle/jPiy93DyQHpdDAYAe6>




Prof. (Dr.) Samir Kumar Samanta
M. Pharm., Ph.D (J.U.)
Principal
Dr. B. C. Roy College of Pharmacy & AHS
Durgapur, West Bengal-713206

3	Tuple: Tuple constructs, syntax and use with programming examples	1	2 nd
4	Dictionary: Dictionary constructs, syntax and use with programming examples	1	2 nd
Unit 5	Functions and Class		
1	Functions-1: Introductions to functions, use and classifications of functions	2	2 nd
2	Functions-2: Programming examples and implementations of built-in functions and user-defined functions	2	2 nd
3	Class concepts: Introduction to object-oriented programming (OOP) with Class with programming implementations	2	2 nd
	Exam-1	2	2 nd
Unit 6	Important python packages		
1	NumPy: Introduction to numPy, numPy array, uses of NumPy in mathematical calculations	1	2 nd
2	SciPy: Introduction to SciPy and uses of SciPy in mathematical calculations.	1	2 nd
3	Database management with Pandas: Introduction to Pandas and its uses in database handling. Introduction to different data formats (e.g., .csv, .xlsx).	1	2 nd
4	Database management with Pandas: How to import export the different data types with Pandas and how to edit the data and obtain statistical results	1	2 nd
Unit 7	Artificial Intelligence and Machine Learning		
1	AI/ML: Introduction to AI and ML -concepts about supervised and unsupervised learning	1	2 nd
2	ANN: Basic concept of artificial neural network, introduction to Perceptron	1	2 nd
3	Application: How to write a basic program with Perceptron with Python	1	2 nd
4	ANN: DNN: Concept of Multi-Layer Perceptron and Deep Neural Network	1	2 nd
Unit 8	Applications of AI/ML in Pharmacy		
1	Application: Prediction of drug-drug interactions and drug-drug interactions in pharmaceutical products (Use a specific drug as a target from real AI/ML and Binding Database using Pandas and NumPy) and other databases	1	2 nd

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Prof. (Dr.) Sanku Kumar Samanta
M. Pharm., Ph.D. (I.I.T.)



2	Cheminformatics. Basic concepts of cheminformatics and how to calculate molecular descriptors and fingerprints using various non-commercial packages.	2	2 nd
3	Rdkit and molecular descriptors. Introduction to Python based Rdkit program to import data, convert data formats and calculations of molecular descriptors and fingerprints.	2	2 nd
4	How to use Scikit-learn for developing ANN models for the pharmaceutical datasets.	2	2 nd
5	How to use Tensorflow for developing ANN models for the pharmaceutical datasets.	2	2 nd
6	Transformer-CNN: Development of Transformer-CNN models using SMILES notations of chemical compounds.	2	2 nd
	Exam-2	2	2 nd
	Total	40	

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Requirement:

Human resource. Will be conducted by selected faculties of Dr. B. C Roy College of Pharmacy and A. H. S. (BCRCP)

Course coordinators: (a) Mr. Soumen Banerjee, Assistant Professor, BCRCP
 (b) Dr. Anit Kumar Halder, Associate Professor, BCRCP

Proposed by: IT Cell, BCRCP

- (a) Prof. Subhabrata Ray
- (b) Dr. Souvik Basak
- (c) Dr. Anit Kumar Halder
- (d) Dr. Falguni Patra
- (e) Mr. Soumen Banerjee

Handwritten signatures and dates:
 Soumen Banerjee 04/04/23
 Falguni Patra 04/04/23
 Anit Kumar Halder 04/04/23

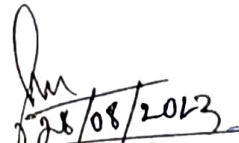


Attendance Sheet


Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Date: 28/08/2023

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	Santanu Das
ML03	Chayanika Kundu	18901922092	Chayanika Kundu
ML04	Kushal Saha	18901922088	Kushal Saha
ML06	Suman Jana	18901922081	Suman Jana
ML07	Samadrita Ghosh	18901922015	Samadrita Ghosh
ML08	Samprati Maity	18901922066	Samprati Maity
ML09	Surajeet Ghosh	18901922060	Surajeet Ghosh
ML10	Subham Dey	18901922033	Subham Dey
ML11	Abhijit Khutia	18901922037	Abhijit Khutia
ML12	Munshi Aman Saheem	18901922036	Munshi Aman Saheem
ML13	Rintu Pal	18901922082	Rintu Pal
ML14	Ayan Mondal	18901922087	Ayan Mondal
ML15	Tutun Mandal	18901922003	Tutun Mandal
ML17	Ankit Das	18901922090	Ankit Das
ML18	Soumyadip Pal	18901922093	Soumyadip Pal
ML19	Debjit Chakrabarti	18901922075	Debjit Chakrabarti
ML20	Spandan Ghosh	18901922034	Spandan Ghosh
ML21	Saumyadip Kayal	18901922086	Saumyadip Kayal
ML22	Ritisha Adhikary	18901922021	Ritisha Adhikary
ML23	Manoj Kumar	18901922002	Manoj Kumar
ML24	Arpita Roy	18901922085	Arpita Roy
ML25	Souvik Maity	18901922100	Souvik Maity
ML26	Oindrila Nag	18901922007	Oindrila Nag
ML27	Rakhi Dhua	18901922018	Rakhi Dhua
ML28	Bishal Das	18901922084	Bishal Das
ML29	Shreyasi Maity	18901922103	Shreyasi Maity
ML30	Akashi Routh	18901922010	Akashi Routh
ML31	Nayan Dutta	18901922044	Nayan Dutta
ML32	Agnik Khutia	18901922058	Agnik Khutia
ML33	Prithwish Ghosh	18901922054	Prithwish Ghosh
ML34	Soumen Khanra	18901922017	Soumen Khanra
ML35	Saikat Biswas	18901922079	Saikat Biswas
ML36	Abhijit Ghosh	18901922035	Abhijit Ghosh
ML37	Tanmoy Datta	18901922038	Tanmoy Datta
ML38	Shreya Rout	18901922094	Shreya Rout
ML39	Subhadip Banerjee	18901922019	Subhadip Banerjee
ML40	Soumyadip Mahato	18901922074	Soumyadip Mahato
ML41	Sayan Bhattacharyay	18901922020	Sayan Bhattacharyay
ML42	Debleena Ghosh	18901922091	Debleena Ghosh


 28/08/2023
 Signature of faculty



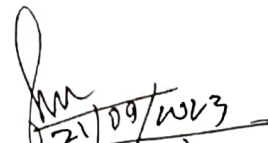

 Prof. (Dr.) Sumir Kumar Samanta
 M. Pharm., Ph.D (J.U.)
 Principal
 Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713206

Attendance Sheet


Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Date: 21/09/2023

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	Santanu Das
ML03	Chayanika Kundu	18901922092	Chayanika Kundu
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ML06	Suman Jana	18901922081	Suman Jana
ML07	Samadrita Ghosh	18901922015	Samadrita Ghosh
ML08	Samprati Maity	18901922066	Samprati Maity
ML09	Surajeet Ghosh	18901922060	Surajeet Ghosh
ML10	Subham Dey	18901922033	Subham Dey
ML11	Abhijit Khutia	18901922037	A
ML12	Munshi Aman Sahein	18901922036	A
ML13	Rintu Pal	18901922082	Rintu Pal
ML14	Ayan Mondal	18901922087	Ayan Mondal
ML15	Tutun Mandal	18901922003	Tutun Mandal
ML17	Ankit Das	18901922090	Ankit Das
ML18	Soumyadip Pal	18901922093	Soumyadip pal
ML19	Debjit Chakrabarti	18901922075	Debjit Chakrabarti
ML20	Spandan Ghosh	18901922034	A
ML21	Saumyadip Kayal	18901922086	Saumyadip Kayal
ML22	Ritisha Adhikary	18901922021	Ritisha Adhikary
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ML24	Arpita Roy	18901922085	Arpita Roy
ML25	Souvik Maity	18901922100	Souvik Maity
ML26	Oindrila Nag	18901922007	A
ML27	Rakhi Dhua	18901922018	Rakhi Dhua
ML28	Bishal Das	18901922084	Bishal Das
ML29	Shreyasi Maiti	18901922103	Shreyasi Maiti
ML30	Akash Routh	18901922010	Akash ROUTH
ML31	Nayan Dutta	18901922044	Nayan Dutta
ML32	Agnik Khutia	18901922058	Agnik Khutia
ML33	Prithwish Ghosh	18901922054	Prithwish Ghosh
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ML35	Saikat Biswas	18901922079	Saikat Biswas
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ML38	Shreya Rout	18901922094	Shreya Rout
ML39	Subhadip Banerjee	18901922019	Subhadip Banerjee
ML40	Soumyadip Mahato	18901922074	Soumyadip Mahato A
ML41	Sayan Bhattacharyay	18901922020	A
ML42	Debleena Ghosh	18901922091	Debleena Ghosh


 Signature of Faculty





 Prof. (Dr.) Samir Kumar Samanta
 M. Pharm., Ph.D (J.U.)
 Principal
 Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713206

Attendance Sheet


Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Date: 09/10/2023

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	Santanu Das
ML03	Chayanika Kundu	18901922092	Chayanika Kundu
ML04	Kushal Saha	18901922088	Kushal Saha
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ML07	Samadrita Ghosh	18901922015	Samadrita Ghosh
ML08	Samprati Maity	18901922066	Samprati Maity
ML09	Surajeet Ghosh	18901922060	Surajeet Ghosh
ML10	Subham Dey	18901922033	Subham Dey
ML11	Abhijit Khutia	18901922037	Abhijit Khutia
ML12	Munshi Aman Saheem	18901922036	Munshi Aman Saheem
ML13	Rintu Pal	18901922082	Rintu Pal
ML14	Ayan Mondal	18901922087	Ayan Mondal
ML15	Tutun Mandal	18901922003	Tutun Mandal
ML17	Ankit Das	18901922090	Ankit Das
ML18	Soumyadip Pal	18901922093	Soumyadip Pal
ML19	Debjit Chakrabarti	18901922075	Debjit Chakrabarti
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ML21	Saumyadip Kayal	18901922086	Saumyadip Kayal
ML22	Ritisha Adhikary	18901922021	Ritisha Adhikary
ML23	Manoj Kumar	18901922002	Manoj Kumar
ML24	Arpita Roy	18901922085	Arpita Roy
ML25	Souvik Maity	18901922100	Souvik Maity
ML26	Oindrila Nag	18901922007	Oindrila Nag
ML27	Rakhi Dhua	18901922018	Rakhi Dhua
ML28	Bishal Das	18901922084	Bishal Das
ML29	Shreyasi Maity	18901922103	A
ML30	Akash Routh	18901922010	Akash Routh
ML31	Nayan Dutta	18901922044	Nayan Dutta
ML32	Agnik Khutia	18901922058	Agnik Khutia
ML33	Prithwish Ghosh	18901922054	Prithwish Ghosh
ML34	Soumen Khanra	18901922017	Soumen Khanra
ML35	Saikat Biswas	18901922079	Saikat Biswas
ML36	Abhijit Ghosh	18901922035	A
ML37	Tanmoy Datta	18901922038	Tanmoy Datta
ML38	Shreya Rout	18901922094	Shreya Rout
ML39	Subhadip Banerjee	18901922019	A
ML40	Soumyadip Mahato	18901922074	A
ML41	Sayan Bhattacharyay	18901922020	A
ML42	Debleena Ghosh	18901922091	Debleena Ghosh


 09/10/2023
 Signature of Faculty




 Prof. (Dr.) Samir Kumar Samanta
 M. Pharm., Ph.D (J.U.)
 Principal
 Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713206

Attendance Sheet

Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML)

Date: 04/12/2023

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	Santanu Das
ML03	Chayanika Kundu	18901922092	Chayanika Kundu
ML04	Kushal Saha	18901922088	Kushal Saha
ML06	Suman Jana	18901922081	Suman Jana
ML07	Samadrita Ghosh	18901922017	Samadrita Ghosh
ML08	Sampati Maiti	18901922066	^
ML09	Surajeet Ghosh	18901922060	Surajeet Ghosh
ML10	Sulham Dey	18901922033	^
ML11	Abhijit Khutia	18901922037	^
ML12	Munshi Aman Sahem	18901922036	^
ML13	Rishi Pal	18901922082	Rishi Pal
ML14	Ayan Mondal	18901922087	Ayan Mondal
ML15	Tutun Mondal	18901922003	^
ML17	Ankit Das	18901922090	^
ML18	Soumyadip Pal	18901922093	Soumyadip pal
ML19	Debjit Chakrabarti	18901922075	^
ML20	Spandan Ghosh	18901922034	^
ML21	Soumyadip Kayal	18901922086	^
ML22	Ritisha A Bhattachary	18901922021	^
ML23	Mangal Karmali	18901922001	^
ML24	Apita Roy	18901922085	Apita Roy
ML25	Souvik Maiti	18901922000	Souvik Maiti
ML26	Omendra Nag	18901922007	^
ML27	Rakha Dhara	18901922018	^
ML28	Bishal Das	18901922084	Bishal Das
ML29	Shreyasi Maiti	18901922103	Shreyasi Maiti
ML30	Akash Rout	18901922010	^
ML31	Nayana Dutta	18901922044	^
ML32	Agnil Khutia	18901922058	^
ML33	Prithwisa Ghosh	18901922054	^
ML34	Somnath Karmali	18901922077	^
ML35	Saikat Bhowmik	18901922079	^
ML36	Abhijit Ghosh	18901922035	Abhijit Ghosh
ML37	Tannoy Datta	18901922038	Tannoy Datta
ML38	Shreya Rout	18901922094	Shreya Rout
ML39	Subhadip Banerjee	18901922019	^
ML40	Soumyadip Mahato	18901922071	Soumyadip Mahato
ML41	Sayan Bhattacharyay	18901922020	^
ML42	Deleena Ghosh	18901922091	Deleena Ghosh

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04/12/2023



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04/12/23

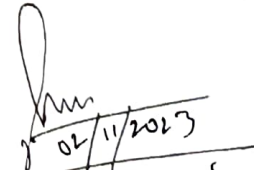
Prof. (Dr.) Gopal Chandra...

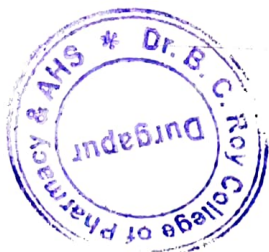
Attendance Sheet


Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Date: 02/11/2023

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	A
ML03	Chayanika Kundu	18901922092	Chayanika Kundu
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ML10	Subham Dey	18901922033	A
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ML18	Soumyadip Pal	18901922093	Soumyadip Pal
ML19	Debjit Chakrabarti	18901922075	A
ML20	Spandan Ghosh	18901922034	A
ML21	Saumyadip Kayal	18901922086	Saumyadip Kayal
ML22	Ritirisha Adhikary	18901922021	Ritirisha Adhikary
ML23	Manoj Kumar	18901922002	A
ML24	Arpita Roy	18901922085	Arpita Roy
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ML27	Rakhi Dhua	18901922018	A
ML28	Bishal Das	18901922084	A
ML29	Shreyasi Maiti	18901922103	Shreyasi Maiti
ML30	Akash Routh	18901922010	Akash Routh
ML31	Nayan Dutta	18901922044	A
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ML39	Subhadip Banerjee	18901922019	Subhadip Banerjee
ML40	Soumyadip Mahato	18901922074	A
ML41	Sayan Bhattacharyay	18901922020	Sayan Bhattacharyay
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 02/11/2023
 Signature of Faculty




 Prof. (Dr.) Samir Kumar Samanta
 M. Pharm., Ph.D (J.U.)
 Principal
 Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713206

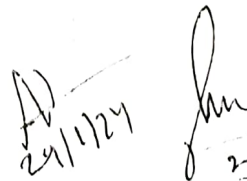
Attendance Sheet

Course Name: Basis programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Date: 29/01/2024

Theory Exam.

Merit List Rank	NAME	ROLL NO	Attendance
ML01	Suvajit Bhunia	18901922102	Suvajit Bhunia
ML02	Santanu Das	18901922104	Santanu Das
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ML10	Subham Dey	18901922033	A
ML11	Abhijit Khutia	18901922037	A
ML12	Munshi Aman Sahein	18901922036	Munshi Aman Sahein
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ML20	Spandan Ghosh	18901922034	A
ML21	Saamyadip Kayal	18901922086	Saamyadip Kayal
ML22	Ritriisha Adhikary	18901922021	Ritriisha Adhikary
ML23	Manoj Kumar	18901922002	Manoj Kumar
ML24	Arpita Roy	18901922085	Arpita Roy
ML25	Souvik Maity	18901922100	Souvik Maity
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ML27	Rakhi Dhua	18901922018	Rakhi Dhua
ML28	Bishal Das	18901922084	Bishal Das.
ML29	Shreyasi Maity	18901922103	Shreyasi Maity
ML30	Akash Routh	18901922010	Akash Routh
ML31	Nayan Dutta	18901922044	A
ML32	Agjiki Khutia	18901922058	A
ML33	Prithwish Ghosh	18901922054	A
ML34	Soumen Khanra	18901922017	Soumen Khanra
ML35	Saikat Biswas	18901922079	A
ML36	Abhijit Ghosh	18901922035	Abhijit Ghosh
ML37	Tanmoy Datta	18901922038	Tanmoy Datta
ML38	Shreya Rout	18901922094	Shreya Rout
ML39	Subhadip Banerjee	18901922019	Subhadip Banerjee
ML40	Soumyadip Mahato	18901922074	Soumyadip Mahato
ML41	Sayan Bhattacharyay	18901922020	Sayan Bhattacharyay
ML42	Debleena Ghosh	18901922091	Debleena Ghosh


 29/01/24
 Signature of Faculty



Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713208
 Dr. Ph.D (J.U.)
 Principal

Dr. B. C. Roy College of Pharmacy & AHS, Durgapur

Course Name : Basic Programming with Python and its application in database management, artificial intelligence and machine learning(AI/ML).

Exam Date : 29/01/2024

F.M : 60


Time : 1.30 Hrs

General Instructions : Question paper contains three groups A, B and C. Group A contains MCQ type questions with 1 marks each. Group B contains short answer type questions with 3 marks each and in Group C, you have to write Python program, carries 5 marks each.

A. choose the most appropriate answer from the options given below

1. Which type of Programming does Python support?
a) object oriented programming b) structured programming
c) functional programming d) all of the mentioned
2. Is Python case sensitive when dealing with identifiers?
a) no b) yes c) machine dependent d) none of the mentioned
3. Is Python code compiled or interpreted?
a) Python code is both compiled and interpreted
b) Python code is neither compiled nor interpreted
c) Python code is only compiled
d) Python code is only interpreted
4. What will be the value of the following Python expression?
 $4 + 3 \% 5$
a) 7 b) 2 c) 4 d) 1
5. Which of the following is used to define a block of code in Python language?
a) Indentation b) Key c) Brackets d) All of the mentioned
6. Which of the following character is used to give single-line comments in Python?
a) # b) = c) ! d) *
7. What are the values of the following Python expressions?
 $2^{(3^2)}$
 $(2^3)^2$
 2^3^2
a) 512, 64, 512 b) 512, 512, 512 c) 64, 512, 64 d) 64, 64, 64
8. What will be the output of the following code snippet?
a)
b) 1
print(a, b)
a, b = b, a
print(a, b)
a) 3 1 1 3 b) 1 3 3 1 c) 1 1 3 3 d) none of these
9. Which of the following declarations is incorrect in python language?
a) $xyzp = 5000000$ b) $x\ y\ z\ p = 5000\ 6000\ 7000\ 8000$
c) $x,y,z,p = 5000, 6000, 7000, 8000$ d) $x_y_z_p = 5,000,000$




Prof. (Dr.) Samir Kumar Saha
M. Pharm., Ph.D. (AI/ML)
Principal
Dr. B. C. Roy College of Pharmacy & AHS,
Durgapur, West Bengal - 726001

10. `print("javatpoint"[5:])`
What will be the output of this code?
a) Javatpoint b) java c) point d) None of these
11. `a = True`
`b = False`
`c = False`
if a or b and c
 `print("ABC")`
else:
 `print("abc")`
a) abc b) ABC c) ABC abc d) abc ABC
12. Which of the following is the truncation division operator in Python?
a) | b) // c) / d) %
13. What will be the output:
`a="10"`
`b="20"`
`c=a+b`
`print(c)`
a) 30 b) 1020 c) 2010 d) none of these
14. How many times will Python execute the code inside the following while loop?
`i = 0`
while `i < 0` and `i > 2` :
 `print ("Hello ...")`
 `i = i+1`
a) 0 times b) 1 times c) 2 times d) infinite times
15. Extension of python file is:
a) .python b) .py c) .prog d) None of these

B. Answer the following questions:

- Write the difference between :
(a) = and == (b) "and" and "or" (c) / and // (d) * and **
- Rewrite the following for loop into while loop:
`for a in range(25,500,25):`
 `print(a)`
- What is the significance of "else" in loop explain with example.
- How many return statement can be used in a function? Explain with example.
- Explain actual and formal arguments with example.
- Write Python code to create a Dictionary and display the length of the dictionary.



(Signature)
Prof. (Dr.) Samir Kumar Samanta
M. Pharm., Ph.D (J.U.)
Principal
Dr. B. C. Roy College of Pharmacy & AHS
Durgapur, West Bengal-713206

7. What is the output of the following?

```
i = 1
while True:
    if i%7 == 0:
        break
    print(i)
    i += 1
```

a) 1 2 3 4 5 6 b) 1 2 3 4 5 6 7 c) error d) none of the mentioned

8. what will be the output if value of a is 5

```
def sum(a):
    a=a+10
    print(a)
```

```
a=int(input("enter a number"))
sum(a)
print(a)
```

9. Write python code to input a string and print the first and last character of it.

10. What will be the output?

```
for x in range(6):
    print(x)
else:
    print("Finally finished!")
```


C. Write python program for the following:

1. Cost of an apple is Rs. 10 and Mango is Rs. 8. You have purchased m and n number of Apples and Mangoes. You will get a discount of 2% if your purchase amount is more than Rs. 5000. Write a program to input the value of m and n and display the purchase amount, discount and net payable amount.
2. Input any 10 numbers in a list and display the maximum element.
3. Display the sum of all the numbers between 1 to 100 which are divisible by both 3 and 7.


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Add-on Course : Python and AI/ML 2023 - 24

Merit List Rank	NAME	ROLL NO	Theory(60)	Practical(40)	Total
ML01	Suvajit Bhunia	18901922102	41	36	77
ML02	Santanu Das	18901922104	30	30	60
ML03	Chayanika Kundu	18901922092	40	36	76
ML04	Kushal Saha	18901922088	44	38	82
ML06	Suman Jana	18901922081	31	32	63
ML07	Samadrita Ghosh	18901922015	18	25	43
ML08	Samprati Maity	18901922066	18	28	46
ML09	Surajeet Ghosh	18901922060	44	38	82
ML10	Subham Dey	18901922033	A	A	A
ML11	Abhijit Khutia	18901922037	A	A	A
ML12	Munshi Aman Sahein	18901922036	26	28	54
ML13	Rintu Pal	18901922082	40	34	74
ML14	Ayan Mondal	18901922087	36	31	67
ML15	Tutun Mandal	18901922003	22	22	44
ML17	Ankit Das	18901922090	35	30	65
ML18	Soumyadip Pal	18901922093	42	37	79
ML19	Debjit Chakrabarti	18901922075	A	A	A
ML20	Spandan Ghosh	18901922034	A	A	A
ML21	Saumyadip Kayal	18901922086	31	32	63
ML22	Ritriisha Adhikary	18901922021	16	27	43
ML23	Manoj Kumar	18901922002	15	25	40
ML24	Arpita Roy	18901922085	32	32	64
ML25	Souvick Maity	18901922100	17	25	42
ML26	Oindrila Nag	18901922007	46	38	84
ML27	Rakhi Dhua	18901922018	6	25	31
ML28	Bishal Das	18901922084	20	28	48
ML29	Shreyasi Maiti	18901922103	18	28	46
ML30	Akash Routh	18901922010	25	30	55
ML31	Nayan Dutta	18901922044	A	A	A
ML32	Agnik Khutia	18901922058	A	A	A
ML33	Prithwish Ghosh	18901922054	A	A	A
ML34	Soumen Khanra	18901922017	27	30	57
ML35	Saikat Biswas	18901922079	A	A	A
ML36	Abhijit Ghosh	18901922035	23	28	51
ML37	Tanmoy Datta	18901922038	42	36	78
ML38	Shreya Rout	18901922094	19	27	46
ML39	Subhadip Banerjee	18901922019	34	35	69
ML40	Soumyadip Mahato	18901922074	29	33	62
ML41	Sayan Bhattacharyay	18901922020	29	30	59
ML42	Debleena Ghosh	18901922091	27	30	57


 05/11/2023




 Prof. (Dr.) Sanjit Kumar Samanta
 M. Pharm., Ph.D (J.U.)
 Principal
 Dr. B. C. Roy College of Pharmacy & AHS
 Durgapur, West Bengal-713206

Course name: Basic programming with Python and its application in database management, artificial intelligence and machine learning (AI/ML).

Level of the course: Certificate

Course objective To teach the students of Pharmacy Python programming language as well as to train them in database management, artificial intelligence machine learning using Python to improve their career opportunities.

Proposed course structure:

Class	Content/Topic	Required Time (in hour)/Credit hour	Year
Unit 1	Introduction to Python		2nd
1	History, use and basics of Python	1	2 nd
2	Data types: Understanding different data-types, size and use	1	2 nd
3	Operators: Explanation about relational, conditional, logical, modulo-division, Boolean operators with different examples and programming implementations	1	2 nd
Unit 2	Conditional statement		2nd
1	Conditional statement -1 Explaining the syntax of if, if-else and elif	1	
2	Conditional statement -2 Programming examples and implementation of all the conditional statements	1	2 nd
Unit 3	Loop		
1	Loop 1: Introduction to <i>while</i> loop with different examples and programming implementation		2 nd
2	Loop 2: Introduction to <i>for</i> loop with different examples and programming implementation		2 nd
3	Loop 3: Introduction to <i>do-while</i> loop with different examples and programming implementation		2 nd
Unit 4	Lists, Tuple and Dictionary		
1	Lists: List constructs, syntax and use	1	2 nd
2	Lists: Use of <i>for</i> loop and <i>while</i> loop with different examples and programming implementation.	1	2 nd



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This is to certify that **Chayanika Kundu**, University Roll No **18901922092**, has been awarded this certificate for successful completion of the Add-on course on "**Basic programming with python and its application in database management, artificial intelligence and machine learning (AI/ML)**" for 40 hours (4 credits) organized by Internal Quality Assurance Cell (IQAC), Dr. B.C. Roy College of Pharmacy & Allied Health Sciences (BCRCP), Durgapur, WB, India from 28th August, 2023 to 06th May, 2024 with a score of 151 out of 200.

Prof. Samir Kr. Samanta
Principal, BCRCP,
Durgapur, WB, India

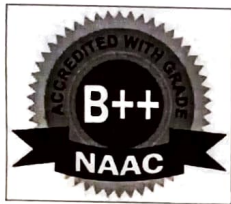
Prof. Subhabrata Ray,
In-Charge, IQAC, BCRCP,
Durgapur, WB, India

Dr. Amit Kumar Halder,
Course Coordinator, BCRCP,
Durgapur, WB, India

Mr. Soumen Banerjee,
Course Coordinator, BCRCP,
Durgapur, WB, India



Prof. (Dr.) Samir Kumar Samanta
M. Pharm., Ph.D (J.U.)
Principal
Dr. B. C. Roy College of Pharmacy & AHS
Durgapur, West Bengal-713206



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Prof. Samir Kr. Samanta
Principal, BCRCP,
Durgapur, WB, India

Prof. Subhabrata Ray,
In-Charge, IQAC, BCRCP,
Durgapur, WB, India

Dr. Amit Kumar Halder,
Course Coordinator, BCRCP,
Durgapur, WB, India

Mr. Soumen Banerjee,
Course Coordinator, BCRCP,
Durgapur, WB, India



Prof. (Dr.) Samir Kumar Samanta
M. Pharm., Ph.D (J.U.)
Principal
Dr. B. C. Roy College of Pharmacy & AHS
Durgapur, West Bengal-713206



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Prof. Samir Kr. Samanta
Principal, BCRCP,
Durgapur, WB, India

Prof. Subhabrata Ray,
In-Charge, IQAC, BCRCP,
Durgapur, WB, India

Dr. Amit Kumar Halder,
Course Coordinator, BCRCP,
Durgapur, WB, India

Mr. Soumen Banerjee,
Course Coordinator, BCRCP,
Durgapur, WB, India



Prof. (Dr.) Samir Kumar Samanta
M. Pharm., Ph.D (J.U.)
Principal
Dr. B.C. Roy College of Pharmacy & AHS
Durgapur, West Bengal-713206