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**VA—1001—2024**

**FACULTY OF ALL FACULTIES**

**All (Third Year) (Fifth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/New Pattern)**

**ENVIRONMENTAL STUDIES (Compulsory)**

**पर्यावरण अभ्यास (अनिवार्य)**

**Paper—V**

**(Wednesday, 27-11-2024)**

**Time : 10.00 a.m. to 12.00 noon**

*Time—2 Hours*

*Maximum Marks—40*

**N.B. :—** (i) Attempt *all* questions.

(ii) All questions carry equal marks.

(iii) Draw neat and well labelled diagram wherever necessary.

(i) सर्व प्रश्न सोडवा.

(ii) सर्व प्रश्नांना समान गुण आहेत.

(iii) आवश्यक तेथे सुबक आकृती काढून नावे द्या.

1. Write in detail the effects of modern agriculture. 15

आधुनिक शेतीमुळे होणारे दुष्परिणाम सविस्तर माहिती लिहा.

*Or*

**(किंवा)**

(a) Describe the importance of Environmental Study. 8

पर्यावरण अभ्यासाचे महत्त्व विशद करा.

(b) Describe grassland ecosystem. 7

‘गवताळ परिसंस्था’ विशद करा.

P.T.O.

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2. Write biogeographical classification of India. 15

भारतातील सजीवांचे भौगोलिक परिस्थितीनुसार वर्गीकरण करा.

Or

(किंवा)

(a) Describe alternative energy source. 8

पर्यायी ऊर्जा स्रोत वर्णन करा.

(b) Discuss the role of an individual in pollution and abatement. 7

प्रदूषण व त्याच्या नियंत्रणात मानवाचा वैयक्तिक वाटा.

3. Write short notes any two : 10

(i) Desertification

(ii) Food web

(iii) Noise pollution

(iv) Environmental awareness.

खालीलपैकी कोणत्याही दोनवर थोडक्यात टिपा लिहा :

(i) वाळवंटीकरण

(ii) अन्न जाळे

(iii) ध्वनी प्रदूषण

(iv) पर्यावरण जागृती.

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**VD—12—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (CS) (Third Year) (Fifth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**Paper BCS-501**

**(Windows Programming)**

**(Friday, 29-11-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) *All questions are compulsory.*

(ii) *Figures to the right indicate full marks.*

(iii) *Assume suitable data, if necessary.*

1. Attempt any *five* of the following (3 marks each) : 15

(a) Explain the CLR.

(b) Explain the .Net Architecture.

(c) Explain the Array.

(d) Explain the advantages of ADO.Net.

P.T.O.

- (e) Explain the .Net Technology.
  - (f) Explain the TextBox and Label Control.
  - (g) Explain the Project Types.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Differentiate between Java vs C#.
  - (b) Explain in detail Customizing Windows Form.
  - (c) Explain in detail Radio Button with example.
  - (d) Explain in detail combobox control with example.
  - (e) Explain in detail Creating interface with example.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail Array list class methods.
  - (b) Explain in detail Checkbox with example.
  - (c) Explain in detail call by value with example.
  - (d) Explain in detail Multicast Delegates with example.
  - (e) Write an android application to demonstrate on TextBox and Button Control.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail call by reference with example.
  - (b) Explain in detail Out parameter with example.

- (c) Explain in detail indexers with example.
  - (d) Explain in detail Delegates with example.
  - (e) Explain in detail Properties with example.
5. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail jagged array with example.
  - (b) Explain in detail StringBuffer class methods.
  - (c) Explain in detail Try and Catch Block.
  - (d) Explain in detail Customs events with example.
  - (e) Developing a simple ADO.NET based application.

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**VD—19—2024**

**FACULTY OF COMPUTER SCIENCE**

**B.Sc. (Third Year) (Fifth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**Paper BCS-502**

**(Python)**

**(Monday, 2-12-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

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*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) *All questions are compulsory.*

(ii) *Figures to the right indicate full marks.*

(iii) *Assume suitable data, if necessary.*

1. Attempt any *five* of the following (3 marks each) :

15

(a) Python Interpreter

(b) Polymorphism

(c) Error Processing

P.T.O.

- (d) Packages
- (e) Functions
- (f) Dictionary
- (g) List.

2. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain features of Python.
- (b) Explain how to install Python on windows.
- (c) Explain variables in brief.
- (d) Explain exception handling in detail.
- (e) Define classes.

3. Attempt any *three* of the following (5 marks each) : 15

- (a) Define Operators.
- (b) Explain Tuple and Set in detail.
- (c) Write a program in Python to check the number is Even or Odd.
- (d) Explain Casting data types in detail.
- (e) Explain data structure in brief.

4. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain standard modules.
- (b) Define inheritance with their types.

- (c) Write a program in Python to check the string is palindrome or not.
  - (d) Define function and arguments in detail.
  - (e) Explain reading and writing files in Python.
5. Write short notes on any *three* of the following (**5** marks each) : 15
- (a) Explain Math functions in detail.
  - (b) Explain exception raising.
  - (c) Explain Programming types in Python.
  - (d) Explain Web using flask.
  - (e) Explain MySQL for Python.



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**VD—28—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (Third Year) (Fifth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**(Data Science)**

**(Wednesday, 4-12-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if required.

(iv) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (3 marks each) :

15

(a) Explain different roles of data scientist.

(b) Differentiate structured and unstructured data.

P.T.O.

- (c) Explain hypothesis technique in detail.
- (d) Explain machine learning.
- (e) Explain Research Methodology.
- (f) Explain role of Data Science in future.
- (g) Explain programming paradigm.

2. Attempt any *three* of the following (5 marks each) : 15

- (a) What is data acquisition ?
- (b) What is data structure ? Explain importance of data structure.
- (c) Explain descriptive and inferential statistics.
- (d) Explain statistical technique in detail.
- (e) What is ANN ? Explain ANN in detail.

3. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain importance of Research Methodology.
- (b) Explain project deployment tools.
- (c) Explain the fundamental of big data.
- (d) What is data warehouse ? Explain in detail.
- (e) Explain scalable and non-scalable data in detail.

4. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain Data Mining Vs. Data Science.
- (b) Explain Data Science life cycle.
- (c) Explain the parallel computing.
- (d) Explain Data Science applications.
- (e) Explain big data management techniques.

5. Write short notes on any *three* of the following (5 marks each) : 15

- (a) Hadoop integration with R
- (b) Software Engineering trends
- (c) Machine learning
- (d) Data acquisition
- (e) Roles and responsibilities of data scientist.

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**VD—23—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (CA) (Third Year) (Fifth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER APPLICATION**

**Paper BCS-504A**

**(Software Testing)**

**Tuesday, 3-12-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) *All questions are compulsory.*

(ii) *Assume suitable data, if required.*

(iii) *Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.*

1. Attempt any *five* of the following (3 marks each) :

15

(a) What is Software Quality ? Explain.

(b) Explain Testing Process of Web Apps.

P.T.O.

- (c) What is Cost of Quality ? Explain
- (d) What is Integration Testing ?
- (e) Discuss Software Testing Fundamentals.
- (f) What is Navigation Testing ?
- (g) Explain Metrics for source code.

2. Attempt any *three* of the following (5 marks each) : 15

- (a) What is Targeted Quality Factors ? Explain.
- (b) Explain Quality Control and Quality Assurance.
- (c) Discuss the concept of Software Reliability.
- (d) Explain Unit Testing in detail.
- (e) What is White-Box Testing ? Explain.

3. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain in detail Control Structural Testing.
- (b) Explain in brief Content Testing.
- (c) Describe the framework for Product Metrics.
- (d) Explain ISO 9126 Quality Factors.
- (e) What is Software Reviews ? Explain.

4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain System Testing.
  - (b) Describe the concept of Art of Debugging.
  - (c) What is Security Testing ? Describe in brief.
  - (d) Explain Metrics for the requirements mode.
  - (e) Discuss the concept Quality and Security.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) Software Quality Assurance
  - (b) A Strategic Approach to Software Testing
  - (c) Basic Path Testing
  - (d) Black Box Testing
  - (e) User interface Testing.

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**VD—02—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (CS) (Third Year) (Sixth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**Paper BCS-601**

**(Mobile Application Development)**

**(Tuesday, 26-11-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. Attempt any *five* of the following (3 marks each) :

15

(a) Describe Android project types.

(b) Explain Android layout screen.

(c) What is open platform for mobile development ?

P.T.O.

- (d) Enlist Android Versions.
- (e) Explain role of linux in Android.
- (f) What is Kotlin ? Describe its role Kotlin or Java in Android.
- (g) What is device emulator ? Explain its use.

2. Attempt any *three* of the following (5 marks each) :

15

- (a) Describe Android application structure.
- (b) Describe Android development tools.
- (c) Explain activity life cycle in detail.
- (d) Explain any *three* user interface controls in Android application.
- (e) Explain the use of content provider.

3. Attempt any *three* of the following (5 marks each) :

15

- (a) What is Intent ? Explain how it will be used in Android application ?
- (b) Explain Analog clock and Digital clock views.
- (c) Explain web view in Android application.
- (d) Write a procedure to create an empty activity project.
- (e) Explain Android stack.



4. Attempt any *three* of the following (5 marks each) : 15

- (a) Describe history of Mobile Application development.
- (b) Describe step to install Android studio.
- (c) Explain importance of Android Manifest file.
- (d) What is SQLite ? Describe the content value and cursors.
- (e) Describe steps of publishing Android App to Android Market.

5. Attempt any *three* of the following (5 marks each) : 15

- (a) Explain Fragments.
- (b) Write a note on Localization.
- (c) Describe use of Toast Notification.
- (d) Describe shared preferences.
- (e) Describe various operating systems used in different mobile devices.

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**VD—08—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (CS) (Third Year) (Sixth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**Paper BCS-602**

**(Fundamentals of Image Processing)**

**(Thursday, 28-11-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. Solve any *five* of the following (3 marks each) :

15

(a) Explain advantages of matlab.

(b) What is image degradation process ?

(c) What is digital image processing ?

P.T.O.

- (d) Explain image types.
- (e) Write down applications of image processing.
- (f) What is visual perception ?
- (g) What is Sampling ?

2. Solve any *three* of the following :

15

- (a) What are components of digital image processing system ?
- (b) Explain fundamental steps in digital image processing.
- (c) Explain color models and color spaces.
- (d) Explain data classes in digital image processing.
- (e) Describe intensity transformation function.

3. Solve any *three* of the following (5 marks each) :

15

- (a) Explain HSV color model.
- (b) Explain reading, displaying and writing of images in digital image processing.
- (c) Explain MATLAB environment.
- (d) Explain geometric transformation function.
- (e) Explain noise model.

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4. Solve any *three* of the following (**5** marks each) : 15

- (a) Describe histogram and function plotting.
- (b) Explain linear and non-linear spatial filtering.
- (c) Explain co-ordinate convention system in digital image processing.
- (d) Explain variables and array in DIP.
- (e) Explain histogram types.

5. Write short notes on (any *three*) : 15

- (a) M function programming.
- (b) Pseudo color image processing.
- (c) Restoration technique
- (d) Fspecial( ) and imfilter( ) function
- (e) Representing digital image.

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**VD—16—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (CS) (Sixth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/Revised Pattern)**

**COMPUTER SCIENCE**

**(Linux Administration)**

**(Saturday, 30-11-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if required.

(iv) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (3 marks each) :

15

(a) Explain managing groups in linux.

(b) Explain how to manage disk quota.

P.T.O.

- (c) Explain KDE process.
- (d) Explain copying file in linux.
- (e) Explain boot loading process of linux.
- (f) Explain setting up a SSH server.
- (g) Explain configuration of local printer.

2. Attempt any *three* of the following (5 marks each) :

15

- (a) Explain managing permissions in detail.
- (b) Explain various run levels in linux.
- (c) Explain managing user accounts.
- (d) Explain starting and stopping services manually.
- (e) Explain concept of scheduling task in linux.

3. Attempt any *three* of the following (5 marks each) :

15

- (a) Explain console-based monitoring in detail.
- (b) Explain priority scheduling in linux.
- (c) Explain various backup strategies in linux.
- (d) Explain backup software.
- (e) Explain kill and killall with syntax and example.

4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain concept of network file system in detail.
  - (b) Explain various backup hardware medias.
  - (c) Explain various printing commands.
  - (d) Explain concept of Apache server in detail.
  - (e) Explain Dynamic Host Configuration Protocol in detail.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) Advanced Wireless Networking
  - (b) Samba
  - (c) Configuration of network printer
  - (d) Granting system administrative privileges to regular user
  - (e) Managing passwords.