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ND—08—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Fundamentals of Digital Image Processing)

(Friday, 1-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

N.B. :— (*i*)   *All* questions carry equal marks.

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

1.   Attempt any *five* of the following :   15

(*a*)   What is Digital Image Processing ? Explain it.

(*b*)   Explain matrix representation in digital image representation.

(*c*)   Explain color image representation in image processing.

(*d*)   Explain CMY color model in image processing.

(*e*)   Explain RGB color model in image processing.

(*f*)   Define noise models in image restoration.

(*g*)   Explain multidimensional array.

P.T.O.

2. Attempt any *three* of the following : 15

   (*a*) Explain applications of image processing.

   (*b*) Explain fundamental steps in digital image processing.

   (*c*) Explain elements of visual perception in detail.

   (*d*) How to representating digital images in computer ? Explain it.

   (*e*) How to reading, displaying and writing of images ? Explain it.

3. Attempt any *three* of the following : 15

   (*a*) Explain sampling and quantization digital image processing.

   (*b*) What is image ? Explain types image in detail.

   (*c*) Explain full color image processing in detail.

   (*d*) Explain pseudo color image processing in detail.

   (*e*) What is histogram ? Explain types of histogram.

4. Attempt any *three* of the following : 15

   (*a*) Explain basic intensity transformation function using in adjust.

   (*b*) Explain histogram equalization in detail.

   (*c*) Explain advantages and disadvantages of MATLAB.

(*d*)   Explain MATLAB environment in detail.

(*e*)   What is MATLAB operator ? Explain in detail.

5.   Write short notes on any *three* of the following :   15

(*a*)   Data class

(*b*)   HSV color model

(*c*)   Neighbourhood

(*d*)   fspecial () and imfilter()

(*e*)   Array operation.

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ND—16—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Linux Administration)

(Monday, 4-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours   *Maximum Marks—*75

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

(ii)   Draw neat labelled diagram wherever necessary.

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

(a)   Explain managing groups in Linux.

(b)   How to Boot Linux into the default run level ? Explain.

(c)   Explain using kill command to control the processes.

(d)   Explain backup strategy in Linux.

(e)   Explain disk quotas in detail.

(f)   Explain Network file system in Linux.

(g)   Explain scheduling tasks in Linux.

P.T.O.

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

   (*a*) How to managing user accounts in Linux ? Explain.

   (*b*) Explain managing user's permissions in Linux.

   (*c*) How to managing user's passwords in Linux ? Explain,

   (*d*) How to controlling services at Boot time using Administrative Tools ?

   (*e*) Explain Starting and Stopping Linux Services Manually.

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

   (*a*) What are the Console-Based Monitoring tools ? Explain.

   (*b*) Explain Graphical Process and System Management Tools.

   (*c*) Explain KDE Process and System Monitoring Tools.

   (*d*) What are Backup Hardware and Media in Linux ? Explain.

   (*e*) Explain Backup Software in Linux.

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

   (*a*) Explain Advanced Wireless Networking.

   (*b*) Explain Dynamic Host Configuration Protocol.

   (*c*) How to Setting Up a Telnet Server ? Explain.

   (*d*) How to Setting Up an SSH Server ? Explain.

   (*e*) Explain installation steps of Apache Server.

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

 (*a*) How to Start and Stop Apache Server ? Explain.

 (*b*) How to Configuring Samba with SWAT ? Explain.

 (*c*) How to Creating and Configuring Local Printers ? Explain.

 (*d*) Explain Configuring and Managing Print Services.

 (*e*) Explain Network Printers in Linux.

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ND—02—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-601

(Mobile Application Development)

(Wednesday, 29-11-2023)   **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 mobile programming.

(*b*)   Write a short note on adding activity.

(*c*)   Write a short note on android stack.

P.T.O.

(d) Explain application context.

(e) Write a short note on List view.

(f) Explain alert dialog box.

(g) Explain shared performance.

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

(a) Explain the different operating system used on mobile devices.

(b) What is Android operating system ? Explain its features and versions.

(c) Explain basic components of android.

(d) Explain creating application template.

(e) Explain buttons and checkboxes with example.

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

(a) Explain android application structure.

(b) What is meant by activities ? Explain its methods.

(c) Explain working with AndroidMainfest.xml.

(d) Explain android architecture.

(e) Explain playing audio.

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

(a) Explain intents and intents filters.

(b) Explain activity life cycle.

    (*c*) What is localization ? Explain in detail.

    (*d*) Explain SQLite database.

    (*e*) Explain custom dialog box in detail.

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

    (*a*) Context menu

    (*b*) Write a short note on toggle buttons.

    (*c*) Style and Themes

    (*d*) Google Map

    (*e*) Write a short note on content provider and remote database.

ND—29—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS–403

(Relational Database Management System)

(Thursday, 7-12-2023)   **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

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

(ii) *All* questions carry equal marks.

(iii) Assume suitable data, if necessary.

1. Attempt any *five* of the following :   15

(a) Explain advantages and disadvantages of RDBMS.

(b) What is SQL ?

(c) Explain various arithmetic operators used in SQL.

P.T.O.

(d)   What is Join ?

(e)   Explain Declaration section of PL/SQL.

(f)   Explain concept of trigger in detail.

(g)   Explain concept of attributes in detail.

2.   Attempt any *three* of the following :   15

(a)   Explain various users of DBMS.

(b)   What is RDBMS ?

(c)   Explain concepts of tuples in detail.

(d)   Explain WHERE clause with suitable example.

(e)   Explain concept of primary key in detail.

3.   Attempt any *three* of the following :   15

(a)   Explain AVG() and FIRST() functions in detail.

(b)   Explain concept of views in detail.

(c)   Explain logical operators with an example.

(d)   Explain with example how table is altered in SQL.

(e)   Explain GROUP BY HAVING clause in detail with example.

4. Attempt any *three* of the following : 15

(a) What is trigger ? Explain types of triggers in detail.

(b) Explain executable command section of PL/SQL in detail with example.

(c) Explain the procedure to enable and disable trigger with example.

(d) Explain concept of exception handling in PL/SQL.

(e) Explain subqueries and its types.

5. Write short notes on any *three* of the following : 15

(a) ORDER BY Clause

(b) Multiple row functions

(c) Types of SQL commands

(d) Outer join

(e) Entities.

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ND—15—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-604(A)

(Software Project Management)

(Monday, 4-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

N.B. :— (*i*) *All* questions carry equal marks.

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

1. Attempt any *five* of the following :   15

    (*a*) Describe the software characteristics.

    (*b*) What is Software Engineering ? Explain its key elements.

    (*c*) Explain the customer and management myth.

    (*d*) What is prototyping ?

P.T.O.

(*e*) What is process maturity ?

(*f*) Explain the concept of direct and indirect measurement.

(*g*) Explain capability maturity model in brief.

2. Attempt any *three* of the following : 15

(*a*) Describe the generic process model.

(*b*) Explain the phases of linear sequential model.

(*c*) What is component based development ?

(*d*) Explain software maturity framework terminologies.

(*e*) Describe the optimization of software process.

3. Attempt any *three* of the following : 15

(*a*) Explain the phases of personal software process.

(*b*) Describe the various levels of capability maturity model.

(*c*) Describe the generic development activities in software process framework.

(*d*) How to identify the task set ?

(*e*) Explain the concept of milestone in software process framework.

4. Attempt any *three* of the following : 15

(*a*) Explain various software application domains.

(b) Describe the matrices for software quality.

(c) Explain with example how to define a process ?

(d) Describe the principles of software process change.

(e) Which process model is better among life cycle and spiral model ? Justify your view.

5. Write short notes on any *three* of the following : 15

(a) Evolving role of software

(b) Size oriented metrics

(c) Spiral Model

(d) Framework Activity

(e) Matrices for software quality.