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JD—501—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

(CBCS Revised Pattern)

COMPUTER SCIENCE

Paper BCS-501

(Windows Programming)

(Monday, 6-4-2026)

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

Time— 3 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.*

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

15

(a) Explain in CLR.

(b) Explain the .Net architecture.

(c) Explain the IDE components.

P.T.O.

- (d) Explain the advantages of ADO.NET.
- (e) Explain the .Net technology.
- (f) Explain the intellisense.
- (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 listbox with example.
- (d) Explain in detail combobox control with example.
- (e) Explain in detail creating Namespace.
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 string class methods.
- (c) Explain in detail creating interface with example.
- (d) Explain in detail custom events with example.
- (e) Disconnected data access through dataset objects.

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JD—502—2026

FACULTY OF COMPUTER SCIENCE

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

APRIL/MAY, 2026

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-502

(Python)

(Wednesday, 8-4-2026)

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

Time— 3 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.

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

15

(a) Tuple

(b) Pickling data

(c) String and string operation

P.T.O.

- (d) Python interpreter
 - (e) Error processing
 - (f) Set
 - (g) Polymorphism.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain variables in brief.
 - (b) Explain features of Python.
 - (c) Explain looping statements in Python.
 - (d) Define Classes.
 - (e) Write down the steps for install of Python.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain casting data types in detail.
 - (b) Define operators with its any *three* types.
 - (c) Explain list and dictionary in detail.
 - (d) Write a program in python to check the number is even or odd.
 - (e) Explain data structure in brief.

4. Attempt any *three* of the following (5 marks each) : 15
- (a) Define inheritance with their types.
 - (b) Explain Math functions in detail.
 - (c) Explain standard modules.
 - (d) Write a program to find addition of two numbers using user input function.
 - (e) Define function and arguments in detail.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) How to passing query in MySQL in detail ?
 - (b) Explain web using flask.
 - (c) Explain MySQL for Python.
 - (d) Write down steps for connecting with databases.
 - (e) Explain exception rising.

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JD—503—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

(CBCS Revised Pattern)

COMPUTER SCIENCE

(Data Science)

(Thursday, 9-4-2026)

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

Time— 3 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 data mining.

(b) Explain structure and unstructured data.

P.T.O.

- (c) Explain hypothesis technique in detail.
 - (d) Explain machine learning.
 - (e) Explain research methodology.
 - (f) Explain importance of data science in future.
 - (g) Explain programming paradigm.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain regression technique with example.
 - (b) Explain essential of algorithms in detail.
 - (c) Explain descriptive and inferential statistics.
 - (d) Explain data visualization
 - (e) Explain data science.
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) Explain sequence analysis with example.
 - (e) Explain scalable and non-scalable data in detail.

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

- (a) Explain experimentation tools.
- (b) Explain data science life cycle.
- (c) Explain the parallel computing.
- (d) Explain data science applications.
- (e) Explain different steps in data science.

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

- (a) Big data management
- (b) Artificial intelligence
- (c) Machine learning
- (d) Data acquisition
- (e) Data scientist.

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JD—504A—2026

FACULTY OF SCIENCE AND TECHNOLOGY

BCS (CS) (Third Year) (Fifth Semester) EXAMINATION

APRIL/MAY, 2026

(CBCS Revised Pattern)

COMPUTER SCIENCE

Paper BCS-504A

(Software Testing)

(Friday, 10-4-2026)

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

Time— 3 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) Explain testing process of WebApps.

(b) What do you mean by cost of quality ?

P.T.O.

- (c) What is integration testing ?
- (d) Write a short note on software testing fundamentals.
- (e) Define software quality.
- (f) What is Navigation testing ?
- (g) Explain metrics for source code.
2. Attempt any *three* of the following : 15
- (a) What is Targeted Quality Factors ? Explain.
- (b) What is White-Box Testing ? Explain.
- (c) Explain in brief content testing.
- (d) Describe the framework for product metrics.
- (e) Explain basic path testing.
3. Attempt any *three* of the following : 15
- (a) Explain in detail control structural testing.
- (b) Explain quality control and quality assurance.
- (c) Discuss the concept of software reliability.
- (d) Explain unit testing in detail.
- (e) What are software reviews ? Explain.

4. Attempt any *three* of the following : 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 software quality assurance.

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

- (a) A strategic approach to software testing
- (b) Black box testing
- (c) User interface testing
- (d) Quality and security
- (e) ISO 9126 quality factors.

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JD—504C—2026

FACULTY OF SCIENCE & TECHNOLOGY

B.Sc. C.S. (Third Year) (Fifth Semester) EXAMINATION

APRIL/MAY, 2026

(Revised/CBCS Pattern)

COMPUTER SCIENCE

(Enterprise Infrastructure and Cloud Technologies Part-I)

(Friday, 10-4-2026)

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

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

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

(3) *Assume suitable data wherever necessary.*

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

15

(a) Define LAN and WAN.

(b) Write *three* differences between IPv4 and IPv6.

(c) What is RAID 1 ?

(d) Define Domain in Windows Server.

(e) What is Windows Server Core ?

(f) What is Group Policy ?

(g) Define NAS.

P.T.O.

2. Attempt any *three* of the following : 15
- (a) Explain Router and Switch with differences.
 - (b) Compare NAS, SAN and DAS.
 - (c) Explain Domain Vs. Workgroup with comparison table.
 - (d) Describe Storage Spaces and Data Deduplication.
 - (e) Explain AD DS and DNS Zones.
3. Attempt any *three* of the following : 15
- (a) Explain RAID 0, RAID 5 and RAID 10 with advantages.
 - (b) Describe FAT, NTFS and ReFS file systems.
 - (c) Explain Failover Clustering and NLB.
 - (d) Explain Windows Server installation steps.
 - (e) Describe AD Replication and Sites.
4. Attempt any *three* of the following : 15
- (a) Explain IPv4 and IPv6 in detail.
 - (b) Describe Server Form Factors and Data Center components.
 - (c) Explain Firewall fundamentals (Hardware & Software).
 - (d) Explain WSUS and Patch Management.
 - (e) Explain Certificate Services (CA and Revocation).

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

- (a) Explain Fibre Channel, iSCSI and FCoE.
- (b) Describe EXT3 and EXT4 file systems.
- (c) Explain PowerShell DSC and Monitoring Tools.
- (d) Explain Securing Domain Controllers.
- (e) Explain Backup and Restore of Active Directory.

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JD—601—2026

FACULTY OF SCIENCE AND TECHNOLOGY

BCS (Sixth Semester) EXAMINATION

APRIL/MAY, 2026

(CBCS Revised Pattern)

COMPUTER SCIENCE

Paper BCS-601

(Mobile Application Development)

(Saturday, 11-4-2026)

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

Time— 3 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 DigitalClock view.

(b) Discuss features of Android operating system.

P.T.O.

- (c) Explain Alert dialog.
 - (d) What is activity ? Explain.
 - (e) Explain helper methods.
 - (f) Explain the concept of download manager.
 - (g) Explain localization in short.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Discuss button controls.
 - (b) Explain Android development tools.
 - (c) Explain activity life cycle.
 - (d) Discuss TimePicker view, DatePicker view.
 - (e) Discuss the importance of the Android Manifest file.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) How do you monitor a location using GPS ?
 - (b) Explain 'Android : An open platform for Mobile Development'.
 - (c) Discuss shared preferences.
 - (d) Discuss fragments in detail.
 - (e) Explain RadioButton, and RadioGroup views.

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

- (a) Explain layouts of a screen.
- (b) What is intent ? Explain its types.
- (c) Explain WebView.
- (d) How do you insert the data in SQLite database ? Explain.
- (e) Explain Android applications structure.

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

- (a) Content provider
- (b) Mobile programming
- (c) Toast notifications
- (d) Android stack
- (e) Versions of Android OS.

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JD—602—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-602

(Fundamentals of Image Processing)

(Saturday, 4-4-2026)

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

Time— 3 Hours

Maximum Marks—75

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

(ii) *All questions carry equal marks.*

(iii) *Draw neat labelled diagram wherever necessary.*

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

(a) Explain any *four* applications of digital image processing.

(b) Describe co-ordinate convention system in image processing system.

(c) Describe color image representation.

P.T.O.

- (d) What is histogram processing ?
- (e) Describe M-function programming.
- (f) How images are read and display in MATLAB ?
- (g) What is digital image representation ?
2. Attempt any *three* of the following questions (5 marks each) : 15
- (a) Explain any *four* fundamental steps of image processing.
- (b) Describe components of image processing system.
- (c) Explain CMY color model.
- (d) Describe MATLAB scratch pad in detail.
- (e) Explain noise model
3. Attempt any *three* of the following questions (5 marks each) : 15
- (a) Describe data classes in image processing.
- (b) Explain RGB color model.
- (c) Explain histogram processing and function plotting.
- (d) Describe `fspecial()` and `imfilter()` spatial filtering techniques.
- (e) Explain restoration techniques.

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

- (a) Explain a model of image degradation and restoration process.
- (b) Describe elements of visual perception in detail.
- (c) Explain sampling concept in image processing.
- (d) Explain advantages and disadvantages of MATLAB.
- (e) Describe intensity transformation function using `imadust()`.

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

- (a) Data class
- (b) Non-linear spatial filtering
- (c) Image types
- (d) Discrimination and adaptation
- (e) MATLAB operator.

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JD—604B—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Linux Administration)

(Tuesday, 7-4-2026)

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

Time— 3 Hours

Maximum Marks—75

N.B. :- (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Draw neat labelled diagram wherever necessary.

1. Attempt the following (any five) :

15

(a) What is operating system ?

(b) Explain managing groups.

(c) Explain managing permissions.

P.T.O.

- (d) Explain disk quotas.
 - (e) Explain stopping services manually.
 - (f) Explain copying files.
 - (g) Explain stopping Apache.
2. Attempt the following (any *three*) : 15
- (a) Explain managing permissions.
 - (b) Explain beginning the Boot loading process.
 - (c) Explain KDE process.
 - (d) Explain backup strategy.
 - (e) Explain copying files.
3. Attempt the following (any *three*) : 15
- (a) Explain setting up an SSH server.
 - (b) Explain backup media.
 - (c) Explain network configuration tools.
 - (d) Explain starting Apache.
 - (e) Explain network file system.

4. Attempt the following (any *three*) : 15
- (a) Explain configuring Samba with SWAT.
 - (b) Explain creating and configuring local printers.
 - (c) Explain advanced wireless networking.
 - (d) Explain backup hardware.
 - (e) Explain granting system administrator privileges to regular users.
5. Write short notes on (any *three*) : 15
- (a) Network printers
 - (b) Runlevel
 - (c) Kill command
 - (d) DHCP
 - (e) Apache server.

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JD—604C—2026

FACULTY OF SCIENCE & TECHNOLOGY

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

APRIL/MAY, 2026

(Revised/CBCS Pattern)

COMPUTER SCIENCE

(Enterprise Infrastructure and Cloud Technologies Part-II)

(Tuesday, 7-4-2026)

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

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

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

(3) *Assume suitable data wherever necessary.*

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

15

(a) Define Shell Environment.

(b) What is DRS ?

(c) Define SaaS.

(d) What is Snapshot in Linux ?

(e) Define VMware vCenter.

(f) What is IAM in AWS ?

(g) What is Tape Backup ?

P.T.O.

2. Attempt any *three* of the following : 15
- (a) Explain RHEL/CentOS architecture and features.
 - (b) Describe File Permissions and Ownership in Linux.
 - (c) Explain VMware vSphere components.
 - (d) Describe AWS EC2 and S3 services.
 - (e) Explain Backup technologies : Disk Vs. Tape.
3. Attempt and *three* of the following : 15
- (a) Explain Linux basic and administrative commands.
 - (b) Describe Hyper-V architecture and VM networking.
 - (c) Explain Azure Networking and Storage Services.
 - (d) Explain Cloud Security and IAM concepts.
 - (e) Explain VM Deduplication and Troubleshooting.
4. Attempt any *three* of the following : 15
- (a) Explain GRUB2 configuration and recovery.
 - (b) Describe vMotion process step-by-step.
 - (c) Explain Cloud Deployment Models.
 - (d) Explain YUM and patch management.
 - (e) Explain Monitoring using Nagios.

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

- (a) Explain Linux Backup and Restore methods.
- (b) Describe HA and DRS in VMware.
- (c) Compare AWS, Azure and GCP.
- (d) Explain VM Templates and dvSwitch.
- (e) Explain Enterprise Backup tools (TSM, NetBackup).