UG — BCA (C – 4005)

2023

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Sections as directed.

Section – A

Answer any **four** questions of the following :

10×4 = 40

1. What is computer network ? List the properties of a good network. What are the advantages and disadvantages of computer network ?

2. Discuss TCP/IP model. Describe and explain the layers of TCP/IP Model. What are the merits and demerits of TCP/IP model ?

QC – 40/2

1

3. What is network topology ? Describe the functions, advantages and disadvantages of ring topology, bus topology and tree topology.

4. What do you mean by transmission media ? Explain guided and unguided media and discuss their types.

5. What is transport layer ? Write the functions of transport layer. Discuss connection management the three events involved in the connection.

6. What is the format of IPv4 header ? Describe the significance of each field.

7. Assume Data frame is 1101011011 and generator polynomial, G(x) is x + x + 1. Calculate the transmitted frame using CRC method.

8. Write notes the following :

    (a) SNMP

    (b) FTP

    (c) Process to process delivery

Section – B

9. Answer all questions of the following : 3×10 = 30

   (a) What are the functions of session layer in OSI model ?

   (b) What is Routing ?

   (c) What is MAC address ?

   (d) What are the repeaters in computer network ?

   (e) What are the challenges of computer network ?

   (f) Differentiate between serial and parallel transmission.

   (g) Describe distortion and noise in signal Transmission.

   (h) What is port number ?

   (i) Compare TCP and UDP protocols.

   (j) What is Parity bit ?

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UG — BCA (C – 4002)

2023

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Sections as directed.

Section – A

Answer any four questions of the following:

10×4 = 40

1. What do you mean by Operating System ? Explain all the components of Operating System ? What are the basic objectives of Operating System ?

2. What are different types of Operating System ? What is the difference between a Loosely coupled system and a Tightly coupled operating system ?

QC – 37/3 (Turn over)

3. Consider the following set of processes with arrival time and CPU burst time given in (ms). Find the average waiting time, response time and turnaround time using FCFS scheduling algorithm.

Process	Arrival time	CPU Burst Time (ms)
P1	0	8
P2	2	4
P3	4	6
P4	6	2

4. List and explain the four necessary conditions that must hold simultaneously for a deadlock to occur. Explain different ways to avoid deadlock.

5. What is Process Control Block (PCB). Explain context switching between two processes by taking proper illustration.

6. Consider the track requests in the disk queue (23, 89, 132, 42, 187), head starts at position

QC – 37/3   (2)   Contd.

100. Explain and compute the total head movement using the following disk scheduling algorithms. (i) SSTF (ii) C-SCAN.

7. What is segmentation ? How is segmentation able to solve the problems of contiguous memory allocation. Explain clearly.

8. Explain the three allocation methods in file system implementation. Illustrate with proper diagram.

Section – B

9. All questions of the following : $3 \times 10 = 30$

   (a) What is cache memory ?

   (b) What do you understand by storage hierarchy ?

   (c) Define implicit tasking and explicit tasking.

   (d) What is Compaction ?

   (e) Differentiate between Fixed size partition and Variable size partition.

   (f) What is Multithreading ?

(g) Differentiate between Preemptive and Non-preemptive scheduling.

(h) What is the difference between Logical address and Physical address ?

(i) List any three important scheduling criteria and goals of scheduling algorithm.

(j) What do you understand by contiguous memeory allocation.

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UG—BCA (C – 4004)

2023

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

Answer any **four** questions of the following :

10×4 = 40

1. Define. Net framework. Explain all its components in detail.

2. Explain the use of Toolbox, Properties window, Code window and Debug window of Visual Studio IDE in detail.

3. Define .Net Assembly. What are the different types of assemblies ? Explain it.

QC – 39/2

(Turn over)

4. What is C# ? Explain some of the major features of C#.

5. What is conditional statement ? Explain the various conditional statements used in C# with its syntax.

6. Define dialog control. Defferentiate between Open file dialog and Save file dialog with example.

7. Explain the ADO.Net model and its components. Differentiate between Execute Reader() and ExecuteScalar () method.

8. Write down the steps to connect to a database in C#. Write a program to design login page.

Group – B

9. Answer all questions of the following : 3×10 = 30

   (a) Write short note on JIT.

   (b) Define loops in C#.

(c) Write short notes on CLR.

(d) List any six windows form controls.

(e) What is the use of Date Time picker control ?

(f) Define Timer control.

(g) Name any three properties of Progressbar control.

(h) Discuss any two ADO.Net Data providers.

(i) What is Data Adapter ?

(j) What is CTS ?

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UG — BCA (C – 4003)

2023

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

Answer any **four** questions of the following :

10×4 = 40

1. Define HTML. Explain the basic structure of an HTML document with an example.

2. Explain the tags to insert video and sound in an HTML document.

3. Define <table> tag. Explain its attributes and subtages with any suitable example.

4. Define CSS. Explain the several ways for inserting CSS in HTML document.

QC – 38/2 (Turn over)

11

5. Define Selectors. Explain various types of selectors used in CSS.

6. What is a Form ? What are the major attributes of the form ? Create a form to store the details of student (Name, Address, Gender, Qualification, Hobbies).

7. Write down the steps to connect MySql database in PHP. Write a PHP code to retrieve the records from any database.

8. Write a PHP code to insert the records of employee (EmpId, EmpName, EmpDesig, EmpDept) in employee table.

Group – B

9. Answer all questions of the following : 3×10 = 30

   (a) Define <HR> tag.

   (b) How to insert image in HTML document ?

   (c) What is inline frame ?

   (d) Differentiate between GET and POST request methods.

QC – 38/2   (2)   Contd.

(e) What is <HR> tag ?

(f) What is ID selector in CSS ?

(g) Write down the steps to insert special character in HTML document.

(h) List any three background property in CSS.

(i) What is the shorthand property of border ?

(j) Differentitate between echo () and print () functions in PHP.

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UG — BCA
(C – 4001)

2023

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

Answer any **four** questions of the following :

10×4 = 40

1. What is Android OS ? Explain development history of Android in detail.

2. Explain Android development tools and its components.

3. Discuss the architecture and working of Android in detail.

QC – 36/2

(Turn over)

4. Define Emulator. Write down the steps to create and deploy an Android project.

5. Explain, in detail, about Android life cycle events with a neat diagram.

6. Demonstrate the use of TextField and Spinners in UI design with suitable example.

7. What is toggle button ? Explain its various properties and events with example.

8. Explain insert and display operations in SQLite database.

Group – B

Answer all the questions of the following :

3×10 = 30

9. What is AndroidManifest.xml file ?

10. Define padding and margin.

11. Define schema in brief.

12. Write down the steps to publish Android app.

13. List various layouts and define any one.

14. What is .apk file ?

15. Define drawable in Res folder.

16. Define Intent filters.

17. Write a note on Spinner widget.

18. What is Activity ?

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