2021

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 Groups as directed.

Group – A

Answer any **four** questiions :   10×4 = 40

1. Define Multimedia. Explain the application of multimedia in education sector.

2. Explain different hardware and software used in any multimedia system.

3. List and explain different components of Multimedia.

4. Differentiate between Interactive and Non-interactive Multimedia.

5. Explain the use of Multimedia in Publishing Industry.

6. Explain some editing and authoring tools. Also, write the features of authoring tools.

7. What is Hypertext ? Also, write some applications of Hypertext.

8. Explain criteria for development of good Multimedia System.

Group – B

Answer **all** questiions :   3×10 = 30

9. Define morphing.

10. List Elements of Multimedia.

11. What is Animation ?

12. Define multimedia pedagogues.

13. Which multimedia system is used for teaching and learning process ?

14. List some Multimedia Software Tools.

15. List some application areas for multimedia.

16. Explain Mednet.

17. List any five image formates.

18. Explain elements of Hypertext.

———— ❖ ————

UG — BCA (C – 4002)
New

2021

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 Groups as directed.

Group – A

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

10×4 = 40

1. What is the main purpose of an Operating System ?

2. What are the differences between Multiprocessing and Multiprogramming ?

OO – 108/2

3. What is a process scheduler ? State the characteristics of a good process scheduler ?

4. What are the differences between paging and segmentation ?

5. Consider with an imaginary disk with 51 cylinders. A request comes into read a block on cylinder11. While the seek to cylinder 11 is in progress, new requests come in for cylinders 1, 36, 16, 34, 9, and 12, in that order. Starting at the current head position, what is the total distance (in cylinders) that the disk arm moves to statisfy all the pending requests, for each of the following disk scheduling algorithm.

   (a) FCFS

   (b) SCAN

   (c) SSTF

   (d) LOOK

6. When does a page fault occur ? Explain various page replacement strategies / algorithms.

7. Show below is the workload for 5 jobs arriving at time zero in the order given :

Job	Brust Time
1	10
2	29
3	3
4	7
5	12

   Now find out which algorithm among FCFS, SJF and Round Robin with quantum10, would give the minimum average time.

8. Explain various disk scheduling algorithm.

Group – B

Answer **all** questiions : 3×10 = 30

9. What are the different Operating Systems ?

10. What are the advantages of Multiprocessing or Parallel System ?

11. What are the differences between Batch Processing System and Real Time Processing System ?

12. What is Kernel ?

13. What is the difference between internal commands and external commands ?

14. What is Spooling ?

15. What is FCFS ?

16. What is Deadlock ?

17. What is Virtual Memory ?

18. What is RAID ?

———— ❖ ————

New

2021

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. Write an HTML Code which creates form to collect user information like name, age, email, phone no.

2. Explain importance of Frame tag in HTML.

3. Design and develop web pages for a school website using HTML with CSS.

OO – 109/1   (Turn over)

4. Explain briefly about forms in HTML.

5. Explain the structure of HTML.

6. Explain cascading style sheet in HTML.

7. Explain the structure of HTML file with example. How is HTML different from CSS ? Explain these different ways for inserting CSS code into an HTML file.

8. How is a form connected to a database ? How can the data in the result set of database using PHP be retrieved ? Consider any suitable example.

Group – B

Answer **all** questions :   3×10 = 30

9. What are the different levels of heading in HTML ?

10. How to create hyperlinks in HTML ?

11. What are the different levels of CSS ? Explain.

12. Explain any seven types of selectors in CSS.

13. List the features of HTML.

14. Write any five CSS text properties.

15. Explain echo statement used in PHP.

16. What is Client-Server Communication ?

17. What is HTML ?

18. What is Coockies and its uses ?

——— ❖ ———

New

2021

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 Common Language Runtime (CLR) ? What is garbage collection in C# ?

2. What are the types of classes in C# ? Explain with example.

3. What are the differences between ref and out keywords ?

4. What do the following acronyms in NET stand for:
IL, CIL, MSIL, CLI and JIT?

5. What is inheritance ? Does C# support multiple inheritance ?

6. What is the difference between late binding and early binding in C# ? Explain.

7. Write a program in C# sharp to find if a given string is palindrome or not ?

8. Write a C# program to find if a positive integer is prime or not ?

Group – B

Answer all questions :   3×10 = 30

9. What is a managed and unmanaged code ?

10. What is the difference between an Array and ArrayList in C# ?

11. Explain the difference between constants and read-only variables.

12. Write a C# program to find the factorial of any positive integer number ?

OO – 110/2   (2)   Contd.

13. Write a C# program to input a number and check whether the input number is Odd or Even number.

14. Explain the difference between boxing and unboxing.

15. Explain what are classes and objects in C# ?

16. What is break and continue statements in C#, explain.

17. How you can define the exception handling in C# ?

18. What are the control statements that are used in C# ?

———— ❖ ————

OO – 110/2 (200)   (3) UG — BCA (C – 4004)
New

UG — BCA (C – 4005)
New

2021

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. Write a detailed note on TCP / IP reference Model. Also, compare TCP / IP and OSI reference model.

2. Explain the function of TCP / IP protocol.

3. Describe the congestion control algorithms.

(Turn over)

4. Explain the design issues of datalink layers.

5. Describe the structure of network layer in the internet.

6. Discuss the services offered by the application layer.

7. Explain network architecture in detail.

8. Explain the bus topology and ring topology networks. Compare their performance.

Group – B

Answer all questiions :   3×10 = 30

9. Write difference between Hub and Switch ?

10. Explain transmission impairments.

11. What are the types of LAN technologies ?

12. What are the functions of Router ?

13. Discuss the use of computer networks.

14. Compare TCP and IP services.

15. What are the objectives of computer communication networks ?

16. What is the significance of flow control ?

17. Define Error detection and correction.

18. What are the main features of Internet Architecture ?

———— ❖ ————

UG — BCA

(C – 4001) New

2020

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 **five** questions :   8×5 = 40

1. What is multimedia ? Explain the applications of multimedia in business.

2. What are the various multimedia components that are to be standardized ? Give a detailed description about introduction to multimedia.

3. What is Multimedia Authoring ? Enlist some useful editing and authoring tools.

CK – 107/2   (Turn over)

1

4. Discuss different types of multimedia structures and how they might be organized.

5. Distinguish between interactive and non-interactive multimedia. How to make instant multimedia ? Differentiate between linear presentation and non-linear interactive types of multimedia presentation.

6. What is digital video ? Explain the use of digital video in developing multimedia applications.

7. Explain how digital communication in helping in advancement of multimedia ?

8. (a) Explain animations. Write down the principle of animation.

   (b) Define Kinematics and Morphing.

Group – B

Answer all questions are compulsory :

3×10 = 30

1. Explain, how Multimedia is different from Graphics ?

2. What are the advantages of multimedia conferencing ?

3. Which Multimedia Component / System used for Teaching and Learning process ?

4. Define Hypertext and Hypermedia.

5. Explain any four differences between CD and DVD.

6. Explain Animation Software Tools.

7. What do you understand by the term of data compression ?

8. Explain how image is stored in digital format.

9. Explain element of Hypertext.

10. Explain the three Video Signal Formats.

❖

UG — BCA (C – 4002)

New

2020

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 an Operating System ? What are the two ways to interact with OS ? Discuss.

2. What is a Process ? Name and draw five different process states with proper definition and diagram.

CK – 108/3

(Turn over)

3. What is Paging ? Discuss the paging model of logical and physical memory. What is purpose of paging in page table ?

4. Calculate the average waiting time, turnaround time for the process given for the following scheduling algorithms :

(a) SJF *Shortest Job First*

(b) FCFS *First come first serve*

(c) RR (Quantum = 2) *Round Robin*

Process	Arrival	Process
P1	0	2
P2	1	1
P3	3	3
P4	5	2

5. What do you mean by disk scheduling algorithm ? Calculate the total head movement with SSTF and SCAN scheduling algorithms for the following block sequence.

91, 150, 42, 130, 18, 70, 60, 128

Initially the head is at cylinder numbered 0. Draw suitable diagram for all.

6. Enlist and explain different types of directory structure. Draw proper diagrams.

7. What do you meant by context switching in OS ? List four important circumstances in which context switching happens.

8. What are different types of CPU schedulers ? Explain the problems associated with preemptive and non-preemptive algorithms.

Group – B

Answer all questions :   3×10 = 30

9. What are three file access methods ?

10. Explain, in brief, seek time and rotational latency.

11. What do you understand by holes in OS ?

12. What are threads ?

13. Explain how multiprogramming increases the utilization of CPU.

14. Which of the following scheduling algorithms could result in starvation and why ?

    (a) FCFS

(b) SJF

(c) Round Robin

15. What do you mean by memory compaction ?

16. What is thrashing ?

17. What is demand paging ?

18. What are the desirable qualities of an OS ?

———— ❖ ————

New

2020

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 :   10×4 = 40

1. Describe HTML documents in terms of its elements and specify the basic structure of an HTML document.

2. Explain the various types of HTML tags. What are the characteristics of HTML ?

3. Discuss table tag and its attributes. How do you create a table in HTML ? Give an example.

CK – 109/2   (Turn over)

1

4. How would you define linking of document in HTML ? How would you create a link ?

5. What is the purpose of Cascading Style Sheets (CSS) ? Illustrate with the help of an examples.

6. How is a Form created in HTML ? What are the various control elements used by Form ?

7. How is a form connected to a database ? How can the data in the result set of database using PHP be retrieved ? Consider any suitable example.

8. Write code to create HTML form which asks username and password from the user and checks its validity with the data stored in a database and provide suitable messages to show whether data is valid or invalid.

Group – B

Answer all questions : 3×10 = 30

9. What do you mean by Hypertext and Hyperlink ?

10. What is the purpose of Anchor tag ?

11. How do images serve as Hyperlinks ?

12. What are Cookies ?

13. What is the difference between Class Selectors and ID Selectors ?

14. Differentiate between Client Side Scripting and Server Side Scripting.

15. How do you use Paragraph tag ?

16. How can you integrate CSS on a web page ?

17. Describe echo statement used in PHP.

18. Write a code to illustrate three types of lists in HTML.

———— ❖ ————

2

UG — BCA (C – 4004)

New

2020

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 :   10×4 = 40

1. What are the major components of the .Net Framework ? Explain the advantages of .Net framework.

2. What is CLR in .Net framework ? What are the responsibilities of CLR ? How Garbage collection is done ?

CK – 110/2   (Turn over)

1

3. Describe the features of Visual Studio IDE. Give the steps to create a simple window application.

4. Describe the structure of a C# program. Explain the control statements available in C#.

5. What is an assembly ? What are the different types of assemblies ? Explain them in detail.

6. List and describe the five major properties of TextBox control. Write a program in C# to validate TextBox for numbers 1 to 100 using Range Validator.

7. What is a Form ? How do we create the Form and managed at run time ? Also, discuss some common Form properties.

8. Explain the ADO.Net model and its components. Describe some commonly used classes for connecting database.
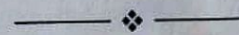
Group – B

Answer all questions :—   3×10 = 30

9. What is CLS ?

10. Define Microsoft Intermediate Language (MSIL).

11. Define Keywords.

12. List the operators available in C#.

13. What is Assembly Manifest ?

14. How to add Items in ListBox in C# ?

15. Explain any two properties and methods of Button control.

16. Differentiate between ListBox and ComboBox control.

17. Explain Save File Dialog control on dialog boxes function.

18. Define ADO.Net data providers.

———— ❖ ————

UG — BCA (C – 4005)

New

2020

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 :   10×4 = 40

1. What are the various types of networks ? Differentiate between LAN, MAN and WAN in terms of topology and technology used by each network.

2. What do you mean by flow control in data link layer ? Discuss with diagrams the working of Selective Repeat Method and compare it with GO Back N.

CK – 111/2   (Turn over)

3. Which layer ensures process to process or end to end delivery of an entire message ? Explain TCP Connection and describe use of each field in TCP header.

4. (a) Explain the importance of application layer.

   (b) Write short notes on the following :

      (i) SMTP

      (ii) SNMP

5. Explain the need of layering in data communication protocol stack. List and explain briefly each layer of OSI model.

6. Explain the TCP/IP model in detail. What are the various layers of TCP/IP model and list their functions ?

7. What are the functions of Network layer ? Explain Message switching, packet switching and circuit switching with proper diagrams.

8. How many types of error correction are there in data. link layer ? Describe Hamming error detection and correction by taking suitable examples.

Group – B

Answer **all** questions :   3×10 = 30

9. List guided transmission mediums.

10. What is the difference between broadcasting and multicasting ?

11. What do you mean by parity bit ?

12. Explain the role of repeaters in analog and digital system.

13. Differentiate between virtual circuit and diagram.

14. What is the difference between MAC address and IP address ?

15. What are transmission impairments ?

16. Why twisted pair cable is twisted ?

17. What is signficance of protocols ?

18. Differentiate between Radio Communication and Satellite Communication ?

——————— ❖ ———————

UG —BCA (C – 4001)

2022(New)

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 :   10×4 = 40

1. What do you mean by Multimedia ? Explain the different features of Multimedia System.

2. Explain the need for planning a multimedia application. Explain the need of logic flowchart for development of interactive multimedia application with an example.

3. Describe how multimedia can be used for the following application area :

   (a) Multimedia in distributed learning environment

   (b) Multimedia in medical sciences

4. Briefly explain the process involved in multimedia project planning and costing.

5. Define multimedia authoring tools. How is it better than Multimedia Programming tools ? Explain with example.

6. What do you understand by Hypertext ? Discuss the application of Hypertext in computer application.

7. What is MIDI ? Explain the advantages and disadvantages of MIDI over the digital audio.

8. (a) What is Animations ? Explain animations software tools.

GB – 117/2   Contd.

(b) What is compression ? Why is compression required in digital video ?

Group – B
(Compulsory)

Answer all questions : $3 \times 10 = 30$

9. Write the different components of multimedia.

10. Explain the uses of any three multimedia softwares.

11. What is Hypermedia ?

12. List and explain two legal issues related to copyright in multimedia application development.

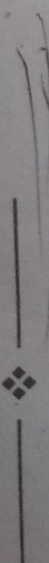13. Which Multimedia component/System is used for Teaching and Learning process ?

14. Define Kinematics.

15. Write down the principle of animation.

16. Explain how image is stored in digital format.

17. What is Annotation ?

18. Explain Quick Time.

———————— ❖ ————————

GB – 117/2 (300)   (3)   UG—BCA (C—4001)

2022(New)

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 Operating System. Discuss Linux based OS Structure with a neat diagram and state its function.

2. What is a process ? What are the different states of a process ? Explain clearly using neat diagram.

GB – 118/2

(Turn over)

---

15. What is context switching ?

16. What is file system ?

17. What is a virtual memory ?

18. What are the desirable qualities of an OS ?

19. What is thrashing ?

——————— ❖ ———————

(90-50)(150-90) (150-21) (50-21)
68-50   (72-68)   (151-72) (151+73

GB – 118/2 (300)   (4)   UG—BCA (C—4002)

3. Draw GANTT chart, calculate the average waiting time and average turn-around time if the processes are scheduled using : FCFS algorithm and SJF algorithm (non-pre-emptive) :

Process	Arrival Time	Burst Time
P1	0	6
P2	1	2
P3	2	5
P4	3	6
P5	7	1

4. What do you mean by CPU scheduling ? What is the difference between Pre-emptive and Non-Pre-emptive scheduling ? Discuss two pre-emptive and two Non-Pre-emptive algorithms.

5. Calculate the total head movement for FCFS, SSTF and C-SCAN algorithms for the following block sequence : 90, 150, 21, 50, 68, 72, 151, 138. Initially the head is at the cylinder number 50.

6. What is paging ? Discuss the paging model of logical and physical memory. What is purpose of paging in page table ?

7. How Memory Management is done in Operating System and what are the different memory partitioning techniques ?

8. What is a directory ? What are the different types of directories ? State their characteristics.

Group – B

Answer any ten questions of the following :

3×10 = 30

9. What is page fault ?

10. What is a system call ?

11. What are holes in the memory ?

12. What are OS commands ? List three commands and explain its use.

13. What is a short-term scheduler ?

14. Explain how multiprogramming increases the utilization of CPU.

UG — BCA (C – 4003)

2022(New)

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 Tag and their types used in HTML. What are the characteristics of HTML ? Also specify the basic structure of a HTML document.

2. What are the different types of heading tag supported in HTML ? Explain it with suitable example.

(Turn over)

3. Write short notes on any **two** of the following tags :

(a) <TABLE>

(b) <FORM>

(c) <MARQUEE>

4. Explain selectors and their types used in CSS with an example.

5. What are the purposes of Cascading Style Sheets (CSS) ? Illustrate with the help of an example.

6. Create a form to store the details of employee. Write PHP code to insert the records in a database.

7. Write the PHP code for fetching the data from a database to a webpage.

8. How file can be uploaded in PHP ? Explain with an example.

GB – 119/2   (2)   Contd.

Group – B

Answer **all** questions on the folloowing :

3×10 = 30

9. What is <frameset> tag ?

10. What is <img> tag used for ?

11. What do you mean by relative positioning ?

12. What is an inline CSS style ?

13. List any three attributes of <body> tag.

14. Describe <link>, <alink> and <vlink>.

15. Define inline frame.

16. What do you mean by session in PHP ?

17. Differentiate between Client side scripting and Server side scripting.

18. What are the components of a CSS style ?

———— ❖ ————

GB – 119/2   (3), UG—BCA (C – 4003)

UG — BCA (C – 4004)

2022(New)

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. Explain the components of .Net framework. Also write down the advantages of .Net framework.

2. Explain the features of .Net Integrated Development Environment (IDE). Describe any three windows available in Visual Studio IDE.

3. What is an assembly ? Explain all the types of assemblies in detail.

GB – 120/2

4. What is data type ? Explain all the data types used in C#.

5. Define loop and its types. Differentiate between for and foreach loop. Wrtie a program to print the factorial of any number.

6. Describe the MaxLength, PasswordChar, ReadOnly, MultiLine, Text and WordWrap properties of Textbox control.

7. List the built in dialog controls in C#. Explain any three of them.

8. Write a program in C# to connect to a database and add a record in the table named **Student**, taking details from the user.

Group – B

Answer all questions :   3×10 = 30

9. Write short notes on JTT.

10. Define Namespace

11. Write short notes on CLR.

12. Explain three major features of C#.

13 Write the use of System, Windows, Forms namespace.

14. What is the use of Panel Control ?

15. Write the use of ExecuteScalar and ExecuteNon-Query methods.

16. Define MsgBox function with syntax.

17. Write a code to create ListBox control at runtime.

18. Name any two data providers.

———— ❖ ————

2022(New)

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 :

$$10 \times 4 = 40$$

1. Differentiate OSI reference model with the TCP/IP reference model.

2. Explain the different topologies of the network.

3. Explain the parity bit method used for error detection. Suppose a bit sequence 1111101 is received. Assume even parity bit method is used, find whether it has been received correctly or not. if not, correct it.

GB – 121/2

4. What are the design issues of Data Link Layer ? Explain.

5. What is the need of Flow control ? Explain the common approaches for flow control in data link layer.

6. Explain the services of transport layer.

7. Explain the significance of switching. What are the different switching techniques used in computer networks ? Discuss.

8. What is IP address class ? Describe various classes in IP address class.

Group – B

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

9. What is the role of protocols in network ? Explain HTTP.

10. What is the difference between Broadcasting and Multicasting ?

11. What are the characteristics of datagram network ?

12. Define congestion in computer networks.

13 Explain about the Radio Transmission.

14. What are the disadvantages of networking ?

15. What is port address ?

16. What are the pros and cons of wireless communication system ?

17. Name any three network devices and their uses.

18. What are the layers of TCP/IP model ?

———— ❖ ————