BCA V Sem

65521

V Semester B.C.A. Examination, March/April 2022
(CBCS)
Paper – III : COMPUTER SCIENCE
Data Communication and Networks

Time : 3 Hours Max. Marks : 100

***Instruction**: Answer **all** Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1) Expand DNS and HTTP.
2) What are the various TCP/IP utilities ?
3) What is Nyquist signaling rate for a noiseless channel ?
4) Define line configuration. Mention its types.
5) Define bit rate and braud rate.
6) What is framming ?
7) Expand FDDI and CSMA.
8) What is reservation ?
9) Define Ethernet.
10) Define Router.
11) What is flooding ?
12) What is bridge ? Mention its types.

SECTION – B

II. Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

13) Explain packet switching.
14) Explain Shannon capacity.
15) Explain the concept of checksum.
16) Write a note on amplitude shift keying.
17) Explain in detail about stop-and-wait ARQ.
18) Define polling. Explain different polling system.
19) Differentiate datagrams with virtual circuits.
20) Write a note on FDDI.

P.T.O.

SECTION – C

III. Answer **any three** questions. **Each** question carries **15** marks. **(3×15=45)**

21) Explain different switching in detail. **15**

22) a) Explain CRC with example. **7**

b) Explain TDM and WDM. **8**

23) a) Explain with diagram twisted pair, coaxial cable and optical fibre. **10**

b) Write a note on CSMA/CD. **5**

24) a) Explain stop and wait ARQ with a neat diagram. **8**

b) Explain ALOHA and Slotted ALOHA. **7**

25) a) Explain in detail TDMA and CDMA. List the advantages and disadvantages of TDMA and CDMA. **10**

b) Explain different types of bridges in computer network. **5**

SECTION – D

IV. Answer **any one** question. **(1×10=10)**

26) Explain ISO-OSI reference model with a neat diagram.

27) Illustrate polar line encoding scheme.

BCA V Sem

65523

Fifth Semester B.C.A. Degree Examination, March/April 2022
(CBCS)
COMPUTER SCIENCE
Computer Architecture

Time : 3 Hours Max. Marks : 100

Instruction : *Answer **all** questions.*

SECTION – A

I. Answer **any ten** questions. **(10×2=20)**

1) Write the symbol, truthtable and logical expression for NAND gate.
2) What is parity bit ?
3) Define min term and max term with an example.
4) What is bidirectional register ?
5) Define interrupt.
6) What is BUN instruction ?
7) What is PSW ?
8) Find the 10's compliment of 1267.
9) Distinguish between FGI and FGO.
10) Mention the types of ROM.
11) What is polling ?
12) Define virtual memory.

SECTION – B

II. Answer **any five** of the following questions. **(5×5=25)**

13) Explain octal to binary encoder with a neat diagram.
14) Design 4 ×1 line multiplexer.
15) Explain any five register reference instructions.
16) Explain the different addressing modes with example.
17) Explain the interrupt cycle of computer.
18) Write a short note on virtual memory.
19) Difference between memory mapped I/O and isolated I/O.
20) Distinguish between RAM and ROM.

P.T.O.

SECTION – C

III. Answer **any three** of the following questions. **(3×15=45)**

21) a) Simplify the following using K-map.
$F(A, B, C, D) = \sum (0, 2, 4, 7, 8, 10, 12) + \sum d(5, 6, 15)$. **8**

b) Explain different binary codes. **7**

22) a) What is shift register ? Explain the classification of shift register. **8**

b) Explain IC's and its types. **7**

23) a) Explain BSA and BUN instruction with suitable example. **8**

b) Explain various modes of data transfer. **7**

24) a) Write a short note on CISC and RISC. **7**

b) Explain the common bus system. **8**

25) a) Explain the input-output instructions. **7**

b) Write a short note on memory hierarchy. **8**

SECTION – D

IV. Answer **any one** of the following questions. **(1×10=10)**

26) Design and discuss 3-bit parity checker with neat diagram. **10**

27) a) Explain the working of JK Flip Flop. **5**

b) Write a note on direct mapping. **5**

65524

V Semester B.C.A. Degree Examination, March/April 2022
(CBCS)
COMPUTER SCIENCE
Java Programming

Time : 3 Hours Max. Marks : 70

Instruction : *Answer **all** the Sections.*

SECTION – A

I. Answer **any 10** questions. **Each** question carries **2** marks. **(10×2=20)**

1) How Java differs from C++ ?
2) What is Web browser ?
3) What is conditional operators ?
4) Give the syntax for switch statement.
5) What is default constructor ? Give an example.
6) What are wrapper classes ?
7) Write any four thread methods.
8) What is interface ? Give an example.
9) What is the difference between error and exception ?
10) What is an applet ?
11) What is a graphic class ?
12) What are the different stream classes available in Java ?

SECTION – B

II. Answer **any 5** questions. **Each** question carries **10** marks. **(5×10=50)**

13) a) Explain the features of Java. **5**
    b) Explain the Bitwise operators. **5**
14) a) Explain the various access specifiers used in Java. **5**
    b) Write the difference between method overloading and overriding. **5**

P.T.O.

15) a) Explain the following :
   i) Final variable
   ii) Final method. 5

   b) Differentiate between arrays and vectors. 5

16) a) Write a program to display all prime numbers between two limits. 5

   b) Explain any five string methods in Java. 5

17) a) What is Package ? How do create and access package in Java ? 5

   b) Explain the life cycle of thread with neat diagram. 5

18) a) What is inheritance ? Explain with examples. 5

   b) Explain multiple catch statements with examples. 5

19) a) Explain the Applet life cycle. 5

   b) Write a program to implement mouse events. 5

20) a) Explain any five methods of graphic class with an example. 5

   b) Explain the use of File Input Stream Class and File Output Stream Class. 5

65525

Fifth Semester B.C.A. Degree Examination, March/April 2022
(CBCS Scheme)
COMPUTER SCIENCE
Microprocessor and Assembly Language

Time : 3 Hours Max. Marks : 70

Instruction : *Answer **all** Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks : **(10×2=20)**

1) What is the use of bidirectional and unidirectional pins of 8085 ?
2) Define program counter and stack pointer.
3) Draw the flowchart to repeat the same task in specified time with delay.
4) Why do we use XRA A instruction ?
5) What is machine cycle ?
6) Define subroutine.
7) How many bytes required to store the following instruction ?
   a) LXI, 2500
   b) ADD B.
8) What are handshake signals ?
9) Write the vectored address of
   i) TRAP
   ii) RST 5.5.
10) Difference between absolute and partial decoding.
11) What are the basic modes of operations of 8255 ?
12) Identify the following IC's compatible with 8085 microprocessor
   a) 8255
   b) 8259
   c) 8257
   d) 8251.

P.T.O.

SECTION – B

II. Answer **any five** questions. **Each** question carries **10** marks : **(5×10=50)**

13) Draw the architecture of 8085 microprocessor and explain. **10**

14) a) What is an addressing mode ? Explain various addressing modes of 8085. **5**

b) What are flags ? Draw the format of flag register and explain their function. **5**

15) a) Explain the following instructions : **5**

i) RRC

ii) STA X

iii) XCGH.

b) Draw the timing diagram for OP code fetch machine cycle. **5**

16) a) Explain the classification of instructions based on word size. **5**

b) Explain the unconditional and conditional jump instruction. **5**

17) a) What is stack ? Explain the different operations that can be performed on stack. **5**

b) Write a program to add two 16 bit numbers. **5**

18) a) What is subroutine ? Explain CALL and RET instruction. **5**

b) Explain RIM and SIM instructions. **5**

19) a) What is an interrupt ? Explain the classification of interrupt. **5**

b) Distinguish between peripheral – mapped I/O and memory – mapped I/O. **5**

20) Write a notes on : **(5+5)**

a) DMA

b) Control word format of 8255 A.