FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Information Technology

BIT 4C 08—COMPUTER ORGANISATION AND ARCHITECTURE

Time : Two Hours

Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 marks.
All questions can be attended.
Overall Ceiling 24.

1. Differentiate between positive and negative logic.

2. What are full adders ?

3. What are the applications of multiplexers ?

4. Distinguish between combinational and sequential circuits.

5. What are the different types of shift registers ?

6. What are the various parts of an instruction ? Explain with an example.

7. What are the uses of memory reference instructions ?

8. What do you mean by micro program ?

9. What is the need for timing and control unit ?

10. What is the role of cache memory ?

11. What are priority interrupts ?

12. What are I/O controllers ?

(8 × 3 = 24 marks)

Section B

Answer at least **five** *questions.*
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.

13. Explain the working of a multiplexer with a neat diagram.

14. What are SR flipflops ? Explain its working principle.

Turn over

15. How are instructions executed in memory ? Explain.

16. Distinguish between hardwired and micro-programmed control unit.

17. Write notes on register reference instructions.

18. Explain the procedure to initiate DMA by the CPU.

19. Describe asynchronous data transfer.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
Each question carries 11 marks.

20. What are counters ? Describe the working of a four bit binary ripple counter.

21. What is virtual memory ? Explain how the virtual address is converted into physical address in a paged virtual memory system.

(1 × 11 = 11 marks)

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4C 07—NUMERICAL METHODS AND OPERATION RESEARCH

Time : Two Hours   Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 marks.
All questions can be attended.
Overall Ceiling 24.

1. What is numerical iteration method ?

2. Solve $x^3 - 9x + 1 = 0$ for the root between $x = 2$ and $x = 4$, by bisection method.

3. Find an approximation to $\sqrt{5}$ to ten decimal places.

4. What are the properties of divided difference method ?

5. Use Taylor's series method $y^1 = x - y^2$, $y(0) = 1$ find $y(0.1)$ correct to four decimal places.

6. Explain Gauss Elimination method.

7. Explain North West corner rule method.

8. Write down the dual of the following LPP :

   Maximize $Z = 4x_1 + 2x_3$
   subject to $-x_1 - x_2 \le -3$, $-x_1 + x_2 \ge -2$, $x_1, x_2 \ge 0$.

9. Solve the following assignment problem :

	I	II	III	IV
A	2	3	4	5
B	4	5	6	7
C	7	8	9	8
D	3	5	8	4

Turn over

10. Solve the following LPP graphically :

Maximize $Z = 60x_1 + 40x_2$

subject to $2x_1 + x_2 \leq 60, x_1 \leq 25, x_2 \leq 35, x_1, x_2 \geq 0$.

11. Differentiate between slack and surplus variables.

12. Explain Newton's forward difference interpolation method.

$(8 \times 3 = 24 \text{ marks})$

Section B

Answer at least **five** *questions.*
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.

13. Find Lagrange's interpolation polynomial fitting the points

$f(1) = -3, f(3) = 0, f(4) = 30, f(6) = 132$. Hence find $f(5)$.

14. Find Solution of $x = 1925$ using Newton's Backward Difference formula :

X	1891	1901	1911	1921	1931
$f(x)$	46	66	81	93	101

15. Given $y^1 = 1 + y^2$, where $y = 0$ when $x = 0$ find $y(0.2), y(0.4)$ and $y(0.6)$ by Runge Kutta method.

16. Solve by Jacobi's iteration method, the system of equations :

$20x_1 + x_2 - 7x_3 = 17$
$3x_1 + 20x_2 - x_3 = -18$
$2x_1 - 3x_2 + 20x_3 = -25$.

17. Solve the following Transportation problem by Vogel's method :

	W_1	W_2	W_3	Supply
F_1	2	7	4	5
F_2	3	3	1	8
F_3	5	4	7	7
F_4	1	3	2	14
Demand	7	9	18	

18. Distinguish between transportation problem and assignment problem.

19. An animal feed company must produce at least 200 kgs of a mixture consisting of

Ingredients X_1 and X_2 daily. X_1 costs Rs. 3 per kg and X_2 cost Rs. 8 per kg . No more than 80 kg of X_1 can be used and at least 60 kgs of X_2 must be used.

Formulate a mathematical model to the problem.

$(5 \times 5 = 25 \text{ marks})$

Section C

Answer any **one** *question.*

The question carries 11 marks.

20. Solve the following problem :

Maximize $Z = 6x_1 + 4x_2$

subject to $\quad -2x_1 + x_2 \leq 2$

$\qquad x_1 \quad -x_2 \leq 2$

$\qquad 3x_1 + 2x_2 \leq 9$

$\qquad x_1, x_2 \geq 0.$

21. Find the solution to the following system of equations using the Gauss-Seidel method.

$12x_1 + 3x_2 - 5x_3 = 1$

$x_1 + 5x_2 + 3x_3 = 28$

$3x_1 + 7x_2 + 13x_3 = 76$ use $(x_1, x_2, x_3) = (1, 0, 1)$ as the initial guess and conduct two iterations.

$(1 \times 11 = 11 \text{ marks})$

Name...

Reg. No...................................

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Information Technology

BIT 4B 06—VISUAL PROGRAMMING USING VB .NET

Time : Two Hours   Maximum : 60 Marks

Section A

*Answer at least **eight** questions.*
Each question carries 3 marks.
All questions can be attended.
Overall Ceiling 24.

1. What is message box in vb.net ?

2. What is jit in vb.net ?

3. List various dialog boxes used in the forms of vb.net.

4. Differentiate constructor and destructor.

5. What is the use of tooltip in vb.net ?

6. Differentiate console and windows applications.

7. Briefly explain mouse events in vb.net.

8. Briefly explain the steps for binding data to controls.

9. List out different types of access modifiers in vb.net.

10. What is a form ?

11. Differentiate implicit and explicit option in vb.net.

12. Briefly explain about name space.

(8 × 3 = 24 marks)

Section B

*Answer at least **five** questions.*
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.

13. Briefly explain exception handling in vb.net.

14. Briefly explain the keywords class and module.

Turn over

15. How datagrid is used to display data ?

16. Briefly explain the branching and iteration statements in vb.net.

17. What is meant by object oriented programming ?

18. Briefly explain different types of arrays in vb.net.

19. Briefly explain any five basic controls in vb.net.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
Each question carries 11 marks.

20. Explain the terms Events and Delegates. Explain Delegate in detail using suitable example.

21. Write a short note on :

     a) Variables.   c) With statement.

     b) Checkboxes.   d) Binding XML data.

(1 × 11 = 11 marks)

(Pages : 2)   Name...

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FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4C 08—MICROPROCESSOR AND APPLICATIONS

(2017 Admissions)

Time : Three Hours   Maximum : 80 Marks

Section A

I. **One Word Answer :**

1 The instruction, MOV AX, 0005H belongs to the ——————— address mode.

2 ——————— pin in 8086 indicates that the other system bus masters will be prevented from gaining the system bus.

3 The ——————— unit in 8086 makes the system bus signals available for external interfacing of devices.

4 ——————— is a 16 bit register that contains the offset of the address that lies in the stack segment.

5 The ——————— directive is used to reserve byte or bytes of memory locations in the available memory.

6 ——————— is a label assigned for repeatedly appearing string of instructions.

7 The ——————— is able to handle a number of simultaneously appearing interrupt requests.

8 When the PS(active low)/EN(active low) pin of 8259A used in buffered mode, then it can be used as a ———————.

9 Because of Pentium's superscalar architecture, the number of instructions that are executed per clock cycle is ———————.

10 The speed of Pentium-Pro when compared to that of Pentium is ———————.

                                                 (10 × 1 = 10 marks)

                                                 Turn over

Section B

II. Write Short Answers on the following questions :

11 Explain the pipelining architecture of 8086.

12 State and explain the addressing modes of 8086.

13 State the purpose of assembler directives ?

14 What is Interrupt Request Register ?

15 What is superscalar architecture ?

(5 × 2 = 10 marks)

Section C

III. Answer any *five* of the following questions :

16 Explain the Pin Configuration of 8086.

17 Explain the general bus operation cycle in maximum mode.

18 Explain the Interrupt Vector Table.

19 State and explain the instruction formats of 8086.

20 Explain the registers of 8259 A.

21 Distinguish between macro and subroutine.

22 What are data transfer schemes ?

23 Distinguish between microprocessor and microcontroller.

(5 × 4 = 20 marks)

Section D

IV. Write Essay on any *five* of the following questions :

24 Discuss the register organization of 8086.

25 Explain the architecture of 8086 with the help of a block diagram.

26 Explain the operating modes of 8086.

27 Explain the arithmetic instructions of 8086.

28 Explain the operation of DMA Controller 8257.

29 Explain the assembler directives and operators in detail.

30 Explain the modes of operation of 8255.

31 Explain Pentium memory management.

(5 × 8 = 40 marks)

Name...

Reg. No.....................................

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4C 07—NUMERICAL METHODS AND OPERATION RESEARCH

(2017 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

*Answer all the **ten** questions.*
Each question carries 1 mark.

1. If $\Delta f(x) = f(x+h) - f(x)$, then for a constant k, Δk equals ———————.

2. Give any *two* iterative methods for solving the system of linear equation.

3. State the order of convergence of Bisection method.

4. Write Taylor's formula to solve $y' = f(x, y)$ with $y(x_0) = y_0$.

5. $1 + \Delta =$ ———————..

6. Which method is also known as Simultaneous displacement method

7. The highest order of polynomial integrand for which Simpson's 1/3 rule of integration is exact is

8. Define an optimum solution to an LPP.

9. Define a Linear programming problem.

10. The assignment problem can be solved by ———————method.

$(10 \times 1 = 10 \text{ marks})$

Part B

*Answer all the **five** questions.*
Each question carries 2 marks.

11. Establish Lagrange's formula for interpolation.

12. Define Simpson's 3/8th rule.

Turn over

13. Define Interpolation. Define Newtons backward difference interpolation formula.

14. Define an assignment problem.

15. Find the dual of the following LPP :

Maximize $Z = 50x_1 + 40x_2$
subject to $4x_1 + 6x_2 \leq 90$
            $8x_1 + 6x_2 \leq 112, x_1, x_2 \geq 0.$

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 marks.

16. Define Newton's Forward difference formula. Use the forward difference formula find the derivative of $f(x) = \log x$ at $x_0 = 1.8$ using $h = 0.1$, $h = 0.05$ and $h = 0.01$.

17. The polynomial which fits the following data using Lagrange's formula (– 1 ,7), (1, 5) and (2,15)

18. Give the brief description about Secant Method

19. Evaluate $\log_e 7$ by Simpson's $1/3^{rd}$ rule and Simpson's $3/8^{th}$ rule.

20. Find the positive root of equation $x^3 - 2x - 5 = 0$, using Newton-Raphson method.

21. Find dy/dx in the point $x = 0.6$ from the following table :

X	0.4	0.5	0.6	0.7	0.8
Y = $f(x)$	1.5836	1.7974	2.0442	2.3275	2.6511

22. Solve the TP by least cost method :

	D_1	D_2	D_3	D_4	Supply
O_1	6	4	1	5	14
O_2	8	9	2	7	16
O_3	4	3	6	2	5
Demand	6	10	15	4	35

23. Differentiate between an assignment problem and transportation problem.

<div align="right">(5 × 4 = 20 marks)</div>

Part D

Answer any five questions.
Each question carries 8 marks.

24. Find the real root of the equation $x \log x - 1.2 = 0$ which lies between 2 and 3 using false position method, correct to three decimal places.

25. Solve the set of equations using Gauss elimination method :

$$10x + y + z = 12$$
$$2x + 10y + z = 13$$
$$x + y + 3z = 5.$$

26. Solve the set of equations using Jacobi iterative method :

$$6x + y + z = 20$$
$$x + 4y - z = 6$$
$$x - y + 5z = 7.$$

27. Given that $dy/dx = x + y$ with the initial condition that $y = 0$ when $x = 0$, use Euler's modified method to find y for $x = 0.2$ and $x = 0.4$, choose $h = 0.2$.

28. Use Runge-Kutta fourth order formula to find $y(0.2)$ and $y(0.4)$ given that

$$y' = \frac{y^2 - x^2}{y^2 + x^2}, y(0) = 0.$$

29. Give brief description about (i) Trapezoidal rule (ii) Simpson's 1/3rd rule and (iii) Simpson's 3/8th rule.

<div align="right">**Turn over**</div>

30. (a) Write a general linear programming problem in standard form

(b) Solve graphically the following LPP :

Mazimize $Z = 3x_1 + 4x_2$,
subject to the constraints : $-4x_1 + 2x_2 \leq 80$, $2x_1 + 5x_2 \leq 180$, $x_1, x_2 \geq 0$.

31. Solve the assignment problem :

Jobs	Machines			
	A	B	C	D
J_1	5	7	11	6
J_2	8	5	9	6
J_3	4	7	10	7
J_4	10	4	8	3

(5 × 8 = 40 marks)

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4B 05--VISUAL PROGRAMMING USING VB.NET

(2017 Admissions)

Time : Three Hours　　　　　　　　　　　　　　　　Maximum : 80 Marks

Section A (Very Short Answer Type)

One word to maximum of one sentence.

Answer **all** *questions.*

Each question carries 1 mark.

1. The data type decimal carries ——————— bytes

2. ——————— are the building block of .NET framework applications ?

3. The default property for a text box control is ——— . ——— ?

4. If nothing is selected in a combo box, its index value is ——————— ?

5. The function procedures are ——————— by default.

6. ——————— is a collection of different classes.

7. A ——————— performs invisible tasks even if you write no code.

8. ——————— is the set of metadata that describes the contents of the assembly.

9. ADO.NET uses a data adapter as a bridge between the_____and the datasource

10. XML is ———————.

(10 × 1 = 10 marks)

Section B (Short Answer)

Not to exceed one paragraph.

Answer **all** *questions.*

Each question carries 2 marks.

11. What are Static variable ?

12. What is the purpose of Dim statement in VB.NET ?

13. What is a Message Box in VB.NET ?

14. What is an exception ?

15. What is a data set ?

<div align="right">(5 × 2 = 10 marks)</div>

Section C (Short Essay)

Not to exceed 120 words.
*Answer any **five** questions.*
Each question carries 4 marks.

16. What is JIT inVB.NET ?

17. Differentiate array and Dynamic array ?

18. What is Method ? What are the types of methods ?

19. Enlist the Dialog Boxes used in Windows Forms of VB.NET?

20. What is Raising an exception ?

21. Which class acts as a base class for all exceptions in VB.NET ?

22. Differentiate constructors and destructor ?

23. Explain the steps to displaying the data in a datagrid ?

<div align="right">(5 × 4 = 20 marks)</div>

Section D (Essay)

*Answer any **five** questions.*
Each question carries 8 marks.

24. Describe Console application and windows application in detail ?

25. Explain IDE in detail ?

26. Explain Branching and iteration statements in detail ?

27. Describe startup, SDI , MDI forms in detail ?

28. Explain various data types in .NET ?

29. What is meant by object oriented programming. Explain ?

30. Design an application for outpatient processing. The database contains the fields pcode, name, date, address, doctor name, sex, amount. Perform insert and search operation.

31. Write a short note on :

    (a) Variables.

    (b) Checkboxes.

    (c) With statement

    (d) Binding XML data.

<div align="right">(5 × 8 = 40 marks)</div>

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Information Technology

BIT 4C 08—MICROPROCESSOR AND APPLICATIONS

(2014 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 mark.

1. The 8086 ———— contents indicates the results of computations in the ALU.

    a) Segment Register.

    b) Flag register.

    c) Data Register.

    d) Index Register.

2. There are ———— segment registers in 8086.

    a) Three.

    b) One.

    c) Four.

    d) Two.

3. In ———— mode, all the control signals are given out by the microprocessor chip.

    a) Minimum.

    b) Lower.

    c) Upper.

    d) Maximum.

4. The directive ———— is used to define a byte type variable.

    a) DW.

    b) DB.

    c) DQ.

    d) DD.

5. The directive ———— informs the assembler that one byte displacement is required to code a jump instruction.

    a) SHORT.

    b) LABEL.

    c) INCLUDE.

    d) EXTRN.

6. The ———— is used for programming the 8257 as per the requirements.

    a) Terminal count register.

    b) DMA address register.

    c) Status register.

    d) Mode set register.

Turn over

7. 8253 can be used as a square wave rate generator in —————.

    a) MODE 1.   b) MODE 3.

    c) MODE 2.   d) MODE 5.

8. The 80186 CPU is a high performance ————— MHz processor arid can address one mega byte of physical memory.

    a) 16.   b) 8.

    c) 4.   d) 32.

9. The integer pipeline of the Pentium processor has ————— stages.

    a) 4.   b) 5.

    c) 3.   d) 6.

10. The ————— data transfer instructions from one register/memory location to another register/ memory location.

    a) Move.   b) Push.

    c) XCHG.   d) Pop.

(10 × 1 = 10 marks)

Part B

Answer all questions.
Each question carries 2 marks.

11. What are the segment registers available for 8086 ?

12. Define Addressing mode.

13. What are the directives used to define subroutine ? What are the constructs it provides ?

14. Define the use of PIO 8255.

15. What are the functional units contained by 80286 processor ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 marks.

16. Give a brief description of Reset and Initialization of 8086 processor.

17. Explain the queue operation in 8086.

18. How are the Instruction set categorized in 8086 ? Explain the function of each.

19. Write a short note on various data definition directives.

20. Write a short note on Key debounce.

21. Explain the overall organization of 80186 processor.

22. What are the two commercial versions of 80386 ?

23. Write a short note on Control word register of 8253.

<div align="right">(5 × 4 = 20 marks)</div>

Part D

Answer any **five** *questions.*
Each question carries 8 marks.

24. Explain the Signal descriptions common for both minimum and maximum modes of 8086.

25. Briefly describe Minimum mode 8086 system with a diagram.

26. Write a short note on different addressing modes for sequential and control transfer instruction in 8086.

27. Explain the classification of Assembly directives based on the functions.

28. Describe the Internal architecture of 8255 with a diagram.

29. With a neat block diagram, explain the Intel Pentium processor.

30. What are the registers available in 8257 ? What are their functions ?

31. Explain the functions of the following pins of 8259 :

    a) $CAS_0 - CAS_2$.

    b) SP/EN.

<div align="right">(5 × 8 = 40 marks)</div>

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4C 07—NUMERICAL METHODS AND OPERATION RESEARCH

(2014 Admissions)

Time : Three Hours   Maximum : 80 Marks

Part A

Answer all questions.
Each question carries 1 mark.

1. State the order of convergence for Newton-Raphson's method.

2. State the condition for convergence of Gauss-Seidal method.

3. What is the nth divided difference of polynomial of nth degree ?

4. State the Lagrange's formula to find $f(x)$ if three sets of values $(x_0, y_0), (x_1, y_1)$ and (x_2, y_2) are given.

5. State the order of error in Simpson's $\frac{1}{3}$ rule.

6. Write a property of Runge-Kutta method.

7. Define surplus variable.

8. Write a demerit of graphical method of solving LPP.

9. What are unbalanced transportation problem ?

10. Comment on "the variables of assignment problem assumes any positive values".

                                                      (10 × 1 = 10 marks)

Part B

Answer all questions.
Each question carries 2 marks.

11. What do you mean by error in error analysis ?

                                                      Turn over

12. Using Lagrange's interpolation formula, find y value when $x = 1$ from the following data :

X	0	– 1	2	3
Y	– 8	3	1	12

13. What is the condition for Simpson's $\frac{3}{8}$ rule and state the formula ?

14. What you mean by duality in LPP ?

15. Define assignment formula.

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 marks.

16. Find an iterative formula to find $\sqrt{N}$, where N is a positive number.

17. Distinguish Gauss elimination method and Gauss Jordan method.

18. Obtain the interpolation quadratic polynomial for following data using Newton's forward difference formula :

X	0	2	4	6
Y	– 3	5	21	45

19. Given $y' = x + y$, $y(0) = 1$ find $y(0.1)$ by Taylor series method.

20. Write down the formula to solve second order differential equation using Runge-Kutta method of fourth order.

21. What are the characteristics of LPP ?

22. Solve graphically the following LPP :

Maximize $Z = 3X_1 + 2X_2$
subject to constraints,
$$X_1 - X_2 \leq 1$$
$$X_1 + X_2 \geq 3 \text{ and } X_1, X_2 \geq 0.$$

23. Show that transportation problem is a special case of LPP.

<div align="right">(5 × 4 = 20 marks)</div>

Part D

*Answer any **five** questions.*
Each question carries 8 marks.

24. Find the root $4x - e^x = 0$ that lies between 2 and 3 by Newton's method.

25. Solve the given system of equation by using Gauss Seidal iteration method

$20x - y - 2z = 17, 3x + 20y - z = -18, 2x - 3y + 20z = 25.$

26. Solve $10x + y + z = 12, 2x + 10y + z = 13, x + y + 5z = 7$ by Gauss Jordan method.

27. Find the error in derivative of $f(x) = \cos x$ by direct and using approximation

$f(x) = \dfrac{f(x+h) - f(x-h)}{2h}$ at $x = 0.8$ choosing $h = 0.01$.

28. Using Taylor's series method find y at $x = 0.1$ if $\dfrac{dy}{dx} = x^2 y - 1$.

29. Consider the initial value problem $\dfrac{dy}{dx} = y - x^2 + 1, y(0) = 0.5$ using the modified Euler method.

Find $f(0.2)$.

30. Solve the following LPP :

Minimize $Z = 3X_1 + 2X_2 + 5X_3$
Subject to constraints,
$$X_1 + 2X_2 + X_3 \leq 430$$
$$3X_1 + 2X_3 \leq 460$$
$$X_1 + 4X_2 \leq 420$$
$$X_1, X_2, X_3 \geq 0.$$

<div align="right">**Turn over**</div>

31. Obtain initial basic solution to the following transportation problem by North West Corner rule :

Destination / Origin	W_1	W_2	W_3	W_4	Availability
F_1	11	12	7	8	50
F_2	21	16	10	12	40
F_3	8	12	18	9	70
Requirement	30	25	35	40	

$(5 \times 8 = 40 \text{ marks})$

(Pages : 4)

Name...

Reg. No...................................

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Information Technology

BIT 4B 05—VISUAL PROGRAMMING USING VB .NET

(2014 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 mark.

1. —————————— is a signal that informs an application that something important has occurred.

    (a) Event.

    (b) Condition.

    (c) State.

    (d) Exception.

2. With —————————— keyword variable preserves its value between procedure calls.

    (a) Public.

    (b) Type.

    (c) ReDim.

    (d) Static.

3. Identify the Correct statement from the following :

    (a) You can declare a dynamic array using Dim statement.

    (b) A jagged array is an array of arrays.

    (c) You cannot initialize the array elements while declaring the array.

    (d) All of these.

4. Identify the incorrect statements from the following :

    (a) A Select Case statement allows a variable to be tested for equality against a list of values.

    (b) Exit statement terminates the loop or Select Case statement.

    (c) With ... End With executes a series of statements as long as given condition is True.

    (d) For Each... Next repeats a group of statements for each element in a collection.

Turn over

5. ———————— method is used to free all resources used by the Timer Control or component.

    (a) Close().   (b) Stop().

    (c) EndInt().   (d) Dispose().

6. Identify the Incorrect statement from the following.

    (a) Combobox index begins at zero.

    (b) RemoveAt() property can be used to remove an item from Combo box when you use item index.

    (c) We can use check boxes within combo box.

    (d) In List box we can select multiple items.

7. ———————— is a special function that is called automatically when a class is created.

    (a) Destructor.   (b) Exception.

    (c) Constructor.   (d) Decorator.

8. Identify the Incorrect statements from the following :

    (a) An object is an instance of a class.

    (b) Putting all the data and related functions in a Class is called Encapsulation.

    (c) The code in the finally block is always executed.

    (d) None of these.

9. ———————— is used to populate a Data set with data from the data source and to update the data source.

    (a) DataReader.   (b) DataAdapter.

    (c) DataObject.   (d) Database.

10. Identify the Incorrect statements from the following :

    (a) DataAdapter provides a bridge between a DataSet and the Database

    (b) DataAdapter uses Command objects to execute Select, Update, Insert and Delete.

    (c) DataSet is disconnected representation of the database.

    (d) The Data in the DataSet cannot be manipulated nor deleted.

(10 × 1 = 10 marks)

Part B

11. Name the types of Numeric datatypes in VB.NET with their sizes.

12. Give the basic syntax of declaring Sub Procedures in VB.NET.

13. What is the difference between RTF and Text Box controls ?

14. What is a Constructor ?

15. Name the Three methods of Command object of ADO.NET.

(5 × 2 = 10 marks)

Part C

16. Briefly explain the features of VB.NET.

17. Write a note on data types in VB.NET.

18. Explain the use of 'With' statement with the help of code.

19. Explain any *two* string functions with examples.

20. Differentiate List box from Combo box and Check Box from Radio Button.

21. Explain MsgBox function and its arguments.

22. How do you handle unstructured Exception ? Give an example.

23. Briefly explain the process accessing data with Server Explorer .

(5 × 4 = 20 marks)

Part D

24. Write a note on the usage of keywords 'Public', 'Private', 'Protected', 'Friend', 'Protected Friend' and 'Static'.

25. Explain Data Types available in VB.NET and also mention any 4 data conversion function with its description.

Turn over

26. How do you create Sub Procedures and Functions in VB.NET ? Demonstrate with the help of code.

27. a) What are the arguments for InputBox function ? Explain.

     b) Write a code to demonstrate handling any one Keyboard event.

28. a) How do you create LinkLabel in Code ?

     b) Write a note on Picture Box.

29. What are the steps involved in structured Exception Handling ? Write a code to demonstrate the handling of user defined exception.

30. Describe the importance of ADO.NET ? Explain the steps involved in populating and displaying data in a Data Grid.

31. Write a program in VB.NET to Write Datasets to XML and Reading Datasets from XML.

<div align="right">(5 × 8 = 40 marks)</div>