

PUBLIC EXAMINATION MARCH – 2024**11TH COMPUTER SCIENCE****ANSWER KEY****1 Marks:**

1. A) Third Generation
2. D) Abstraction
3. D) 5
4. B) ::
5. D) Spam
6. D) *
7. B) for
8. B) Electronic Data Interchange
9. D) Encapsulation
10. A) 55
11. B) F2
12. A) Copy Constructor
13. A) Word Length
14. D) Graphics User Interface
15. A) Pentium III

2 Marks:

16. $(1324)_8$ convert to equivalent Decimal Number.?

17.

$$\begin{aligned}(1324)_8 &= (?)_{10} \\ &= (1 \times 8^3) + (3 \times 8^2) + (2 \times 8^1) + (4 \times 8^0) \\ &= (1 \times 512) + (3 \times 64) + (2 \times 8) + (4 \times 1) \\ &= 512 + 192 + 16 + 4 \\ &= 724 \\ (1324)_8 &= (724)_{10}\end{aligned}$$

24. Output:

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7

3 Marks:

33. Write a C++ program to display number from 5 to 1 using do-while loop.

```
#include<iostream>
using namespace std;
int main()
{
  int i=5;
  do{
  cout<< i;
  i--;
  }while(i>=1);
}
```

5 Marks:

35 a)

35. a)

$$i) (-21)_{10} + (5)_{10}$$

Sol:

$$\begin{array}{r} 2 \overline{) 21} \\ 2 \overline{) 10} - 1 \\ 2 \overline{) 5} - 0 \\ 2 \overline{) 2} - 1 \\ 1 - 0 \end{array}$$

$$\begin{array}{r} 2 \overline{) 5} \\ 2 \overline{) 2} - 1 \\ 1 - 0 \end{array}$$

$$5 \Rightarrow 101$$

$$21 = 10101$$

$$8 \text{ bit} \Rightarrow 00010101$$

Change
0 → 1, 1 → 0

$$1's \text{ compl.} \Rightarrow 11101010$$

$$\begin{array}{r} \text{Add} \quad \quad \quad + 1 \\ \hline 11101010 \\ \hline 11101011 \end{array}$$

$$2's \text{ complement of } -21 \Rightarrow 11101011$$

$$\begin{array}{r} -21 + 5 \Rightarrow \quad \quad \quad 1111 \\ \quad \quad \quad \quad \quad \quad 11101011 \\ \quad \quad \quad \quad \quad \quad 101 \end{array}$$

$$\begin{array}{r} \hline 11110000 \\ \hline \end{array}$$

$$(-21)_{10} + 5_{10} \Rightarrow 11110000_2$$

35.

$$ii) (-12)_{10} + (15)_{10}$$

Sol:

$$\begin{array}{r} 2 \overline{) 12} \\ 2 \overline{) 6 - 0} \\ 2 \overline{) 3 - 0} \\ \hline 1 - 1 \end{array}$$

$$\begin{array}{r} 2 \overline{) 15} \\ 2 \overline{) 7 - 1} \\ 2 \overline{) 3 - 1} \\ \hline 1 - 1 \end{array}$$

$$12 \Rightarrow 1100$$

$$15 \Rightarrow 1111$$

$$8 \text{ bit} \Rightarrow 00001100$$

$$0 \rightarrow 1, 1 \rightarrow 0$$

$$1's \text{ comp} \Rightarrow 11110011$$

$$2's \text{ comp} \Rightarrow \underline{11110100}$$

$$-12 + 15 \Rightarrow \begin{array}{r} 1111 \\ 11110100 \\ \hline 1111 \end{array}$$

$$\underline{\underline{10000011}}$$

$$(-12)_{10} + (15)_{10} \Rightarrow (11)_2$$

36 b) Write the differences between if-else and switch statement.

S.No	if-else	Switch
1	Expression inside if statement decide whether to execute the if block or under else block.	expression inside switch statement decide which case to execute.
2	An if-else statement uses multiple statements for multiple choices	switch statement uses single expression for multiple choices.
3	If-else statement checks for equality as well as for logical expression.	switch checks only for equality.
4	The if statement evaluates integer, character, pointer or floating-point type or Boolean type.	switch statement evaluates only character or a integer data type.
5	If the condition is false the else block statements will be executed	If the condition is false then the default statements are executed.

37. a) What is an output unit? Explain any three output devices.

An Output Unit is any hardware component that conveys information to users in an understandable form.

1. Plotter: Plotter is an output device that is used to produce graphical output on papers. It uses single color or multi color pens to draw pictures.

2. Speakers: Speakers produce voice output (audio) . Using speaker along with speech synthesise software, the computer can provide voice output. This has become very common in places like airlines, schools, banks, railway stations, etc.

3. Multimedia Projectors:

Multimedia projectors are used to produce computer output on a big screen. These are used to display presentations in meeting halls or in classrooms.

37. b) Output:

Constructor
Roll no: 14
Marks: 100
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38. b) Debug the following program:

S.No	Error	Correction
1	%include<iostream>	#include<iostream>
2	using namespace std:	Using namespace std;
3	CLASS Shape	class Shape
4	Private()	private:
5	Protected;	protected;
6	PUBLIC;	public:
7	Void setwidth[int w]	void setwidth(int w)
8	};	}
9	}	};
10	Class rectangle :: Public Shape	class rectangle : public Shape
11	Public	public:
12	int getarea[]	int getarea()
13	};	}
14	}	};
15	int MAIN()	int main()
16	rectangle rect:	rectangle rect;
17	cout>>"Total area:"<<rect.getarea()<<endl;	cout<<"Total area:"<<rect.getarea()<<endl;
18	};	}



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