Model Paper of Introduction to Programming
For Diploma in Information Technology-02 Year
DIT Part-I (First Year)

Time: 1 Hour **Marks: 39**

Objective (Part-A)

Q1. Encircle the correct option

1. A program is:
A) A hardware device B) A set of instructions given to a computer
C) A programming language D) An operating system
Answer: B

2. Which is the lowest-level programming language?
A) Python B) Assembly
C) Machine Language D) Java
Answer: C

3. Assembly language uses:
A) English words B) Binary digits C) Mnemonics D) Graphics
Answer: C

4. Python is a:
A) Machine language B) Assembly language
C) High-level language D) Low-level language
Answer: C

5. An algorithm is:
A) A type of software B) A step-by-step solution to a problem
C) A hardware device D) A loop
Answer: B

6. A compiler:
A) Translates whole program at once B) Translates line by line
C) Executes directly D) Debugs code
Answer: A

7. Python uses:
A) Compiler B) Interpreter
C) Assembler D) Linker
Answer: B

8. Python was created by:
A) Dennis Ritchie B) James Gosling C) Guido van Rossum D) Bill Gates
Answer:

9. Which IDE is recommended in syllabus?
A) VS Code B) NetBeans C) PyCharm Community Edition D) Eclipse
Answer: C

10. Comments in Python start with:
A) // B) # C) /* D) --
Answer: B

11. A Syntax Error occurs when:
A) Logic is wrong B) Program crashes during execution
C) Grammar rules are violated D) Output is unexpected
Answer: C

12. Logical error affects:
A) Program structure B) Output correctness
C) Syntax D) Installation
Answer: B

13. Runtime error occurs:
A) Before execution B) During execution
C) During installation D) During writing code
Answer: B

14. A variable is used to:
A) Store data B) Print output C) Loop D) Comment code
Answer: A

15. Which is a valid variable name?
A) 1name B) name-1 C) name_1 D) @name
Answer: C

16. Assignment operator in Python is:
A) == B) = C) := D) !=
Answer: B

17. The function type() is used to:
A) Print value B) Convert data
C) Check data type D) Assign variable
Answer: C

18. Which operator is used for exponentiation?
A) ^ B) * C) ** D) //
Answer: C

19. Which is a Boolean value?
A) 0 B) 1 C) True D) 10
Answer: C

20. Logical AND operator in Python is:
A) && B) and C) & D) AND
Answer: B

21. Strings in Python are enclosed in:
A) {} B) [] C) "" or " D) ()
Answer: C

22. len() function returns:
A) Uppercase B) Length C) Lowercase D) Index
Answer: B

23. upper() method converts string to:
A) Lowercase B) Title case C) Uppercase D) None of these

24. Indexing in list starts from:
A) 0 B) 1 C) -1 D) 2
Answer: A

25. Which operator checks membership?
A) in B) is C) == D) <>
Answer: A

26. list[1:3] is called:
A) Indexing B) Looping C) Slicing D) Joining
Answer: C

27. Which keyword is used for condition checking?
A) for B) if C) while D) def
Answer: B

28. Which keyword is used when first condition fails?
A) then B) elif C) loop D) switch
Answer: B

29. else block executes when:
A) Condition is True B) Loop runs
C) All conditions are False D) Error occurs
Answer: C

30. Which loop is used when number of iterations is known?
A) while B) do-while C) for D) if
Answer: C

31. break statement:
A) Skips iteration B) Stops loop completely
C) Restarts loop

D) Prints output
Answer: B

32. continue statement:
A) Stops loop
B) Skips current iteration
C) Ends program
D) Prints error
Answer: B

33. Functions in Python are defined using:
A) function
B) define
C) def
D) fun
Answer: C

34. return statement is used to:
A) Print value
B) Exit loop
C) Send value back
D) Declare variable
Answer: C

35. Variables inside a function are:
A) Global
B) Local
C) Permanent
D) Static
Answer: B

36. Which module is used for drawing shapes?
A) math
B) turtle
C) random
D) sys
Answer: B

37. Which library is used for working with Excel files?
A) NumPy
B) Matplotlib
C) Pandas
D) Tkinter
Answer: C

38. Which library is used for web development?
A) Tkinter
B) Pygame
C) Django
D) NumPy
Answer: C

39. Which library is mainly used for numerical computing?
A) NumPy
B) Turtle
C) Tkinter
D) Pygame
Answer: A

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Subjective (Part-B)

Time: 2 Hours SECTION-I 8X2=16

Q2: Attempt any 8 questions of the following

1. What is a program?
2. Define algorithm with an example.
3. What is the difference between machine language and high-level language?
4. Differentiate between compiler and interpreter.
5. Who developed Python and in which year was it introduced?
6. What is the purpose of using an IDE? Name one Python IDE.
7. What is a syntax error? Give one example.
8. What is the difference between runtime error and logical error?
9. What are the rules for naming variables in Python?
10. Write the difference between list and string.
11. Explain the use of if-elif-else statement.
12. What is the difference between for loop and while loo

SECTION-II

Note: Attempt any 2 questions of the following 10*2=20

Q3.

Define a computer program. Explain the different types of programming languages (Machine Language, Assembly Language, and High-Level Language) in detail. Discuss their advantages and disadvantages.

Q4.

What is an algorithm? Explain the characteristics of a good algorithm. Also differentiate between compiler and interpreter with proper comparison.

Q5.

What are variables in Python? Explain the rules for naming variables and discuss different types of operators (Arithmetic, Logical, and Comparison operators) in detail.

Q6.

Explain control structures in Python. Discuss conditional statements (if, elif, else) and loops (for and while) in detail. Also explain the purpose of break and continue statement.

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Practical Paper

Time: 3Hours **Marks: 25**

Note: Attempt any 2 of the following **10*2=20**
Each question contain equal marks

Q1: **Write a Python script to check whether a number entered by the user is even or odd.**

Q2: **Write a Python script to print the first 10 natural numbers using a loop (for or while).**

Q3: **Write a Python script to calculate the area of a circle** using the formula:
A=πr2A = \pi r^2A=πr2

Q4: **Write a Python script that takes five fruit names from the user, stores them in a list, and displays them using a for loop**

Viva voce: 5