

27. a. Food corner home delivers vegetarian and non-vegetarian combos to its customer based on order. Design a form using python to rate the food corner (0 to 5), form consists of following widgets. 10 3 2 3
- (i) Customer Name (ii) Customer Phone number
  - (iii) Feedback about services (iv) gender
  - (v) language - to speak (multi language is allowed)
  - (vi) rating about the service (scale)
  - (vii) submit button

(OR)

- b. Create an application for a garment shop that stores and retrieves vendor information from a database using python with SQLite. 10 3 2 3

28. a. Describe thread synchronization with an example (python). 10 2 3 2

(OR)

- b. Explain the following functions in python with an example. 10 2 3 2
- (i) map ( ) (ii) reduce ( ) (iii) filter ( ) (iv) lambda ( )

29. a. Create a string reverse service socket program on both the sever and client sides. In a request, the client sends a string to the server, and the server responds with the string reverse. Make all of the requisite assumptions. 10 3 4 3

(OR)

- b. Encode the following facts and rules in pyDatalog (logic programming paradigm). 10 3 4 3
- (i) Bear is big
  - (ii) Elephant is big
  - (iii) Cat is small
  - (iv) Bear is brown
  - (v) Cat is black
  - (vi) Elephant is gray
  - (vii) An animal is dark if it is black
  - (viii) An animal is dark if it is brown

Write a query to find which animal is dark and big.

30. a. Develop a python code to carry out the operations on the given algebraic manipulation for the given expression. 10 3 5 3
- $$a^2 - ab + ab - b^2 = a * 2 - b * 2$$
- by using symbolic programing paradigms principle.

(OR)

- b. Develop a python code for the Deterministic Finite Automata (DFA) for the language that accepts all and only those strings the contain 001. 10 3 5 3

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Reg. No.

**B.Tech. DEGREE EXAMINATION, MAY 2022**  
Fourth Semester

**18CSC207J – ADVANCED PROGRAMMING PRACTICE**

(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

**Note:**

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40<sup>th</sup> minute.
- (ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

**PART – A (25 × 1 = 25 Marks)**

Answer **ALL** Questions

- |   | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 1. Programming based on stepwise refinement process.<br>(A) Structural (B) C programming<br>(C) Procedural (D) Find   | 1     | 1  | 1  | 1  |
| 2. A type of computer programming language that specifies a series of well-structured steps and procedures within its programming context to compose a program is known as<br>(A) Structural language (B) Assembly language<br>(C) Procedural language (D) Machine language   | 1     | 2  | 1  | 2  |
| 3. Recall the format for add the button widget to the GUI application.<br>(A) <code>button = tk.Button(text = 'click', width = 10)</code><br>(B) <code>button = tk.Button(root, text = 'click', width = 10)</code><br>(C) <code>tk.Button(root, text = 'click', width = 10)</code><br>(D) <code>button.pack( )</code> | 1     | 1  | 2  | 2  |
| 4. The number of values a function can return at a time?<br>(A) 1 (B) 0<br>(C) 2 (D) More than 2  | 1     | 2  | 1  | 2  |
| 5. Each module in procedural language is composed of one or more<br>(A) Modules (B) Paradigm<br>(C) Operations (D) Subprograms  | 1     | 1  | 1  | 1  |
| 6. Which feature can be implemented using encapsulation?<br>(A) Polymorphism (B) Abstraction<br>(C) Overloading (D) Inheritance   | 1     | 1  | 1  | 2  |
| 7. Which command is used to modify a table's storage characteristics?<br>(A) Update (B) Insert into<br>(C) Alter table (D) Delete   | 1     | 1  | 2  | 2  |
| 8. In imperative programming languages, compiler _____.<br>(A) Compiles the code (B) Implements the virtual machine defined by the programming language<br>(C) Executes the code (D) Converts the code  | 1     | 1  | 2  | 2  |

9. Which of the below statement best describes the event listener? 1 1 2 1  
 (A) It is a literal that alerts if event happens (B) It is a class object that intimates on occurrence of event  
 (C) It is routine that alerts if event happens (D) It is interface that calls the subroutine
10. Identify which method will be used to place the widget in left, right, up, down on screen. 1 2 2 2  
 (A) Pack ( ) (B) Grid ( )  
 (C) Place ( ) (D) Get (left, right, up, down)
11. Property of the thread in python that doesn't block the main thread from exiting and continuous to run in the background. 1 2 3 2  
 (A) Acquire (B) Sleep  
 (C) Daemon (D) Worker
12. How does run( ) method is invoked? 1 1 3 2  
 (A) By thread.run( ) (B) By thread.start( )  
 (C) By thread.create( ) (D) By thread.make( )
13. Multithreading is also called as \_\_\_\_\_. 1 1 3 1  
 (A) Concurrency (B) Simultaneously  
 (C) Crosscurrent (D) Recurrent
14. Functional programming mainly focusses on 1 2 3 2  
 (A) Expressions and stateless (B) Stateful and expression  
 (C) Statements and expressions (D) Stateful and statements
15. Concurrent applications are controlled by \_\_\_\_\_ in python. 1 2 3 2  
 (A) Python concurrent lock (B) Global interpreter lock  
 (C) Semaphore (D) Fetcher lock
16. In network programming, connection establishment are made by the following functions. 1 2 4 2  
 (A) read ( ) and write ( ) (B) write ( ) and read ( )  
 (C) connect ( ) and accept ( ) (D) socket ( ) and listen ( )
17. "A function might modify a global variable or static variable, modify one of its arguments, raise a exception, write data to a display or file, read data". What does their statement is discussing? 1 2 4 2  
 (A) Side effect (B) Cumulative effect  
 (C) Execution of a program (D) Flow control
18. When a recursive call is performed by the function in the last, then it will be called as 1 1 4 2  
 (A) End recursive (B) Tail recursive  
 (C) Quit recursive (D) Exit recursive
19. If the protocol is UDP which method is used to receive message at endpoints? 1 2 4 2  
 (A) sock\_object.recvfrom( ) (B) recvfrom( )  
 (C) sock\_object.recv( ) (D) recvinfo( )

20. Choose the correct option to specify first argument while creating socket object 1 1 4 1  
 (A) Socket family and protocol (B) Socket family  
 (C) Socket type (D) Protocol
21. Which programming paradigms can manipulate its own formulae and program components? 1 1 5 2  
 (A) Functional programming paradigms  
 (B) Imperative programming paradigms  
 (C) Symbolic programming paradigm  
 (D) Declarative programming paradigms
22. The \_\_\_\_\_ are assigned by automated substitutions, the value in those variables are \_\_\_\_\_ variables. 1 1 5 2  
 (A) Most generic unifiers, logical (B) Unifier, imperative  
 (C) First order logic, sequence (D) First order logic, symbolic
23. What is the output of the following program (Assume that the indentation is correct) from sympy import Symbol, Solve  
 $x = \text{Symbol}('X')$   
 $\text{Sol} = \text{Solve}(X**3 - X, X)$   
 $\text{print}(\text{sol})$   
 (A)  $[-1, 0, 1]$  (B)  $[1, 0, 1]$   
 (C)  $[1, 0, -1]$  (D)  $[-1, 1, 0]$
24. The symbolic paradigm function which aids in finding the roots of equation is \_\_\_\_\_. 1 2 5 1  
 (A)  $\text{sym.solve}()$  (B)  $\text{ym.solveset}()$   
 (C)  $\text{sym.factors}()$  (D)  $\text{sym.diff}()$
25. What would be the sympy expression is correct to generate the output 5/6? 1 2 5 2  
 (A)  $\text{sym.Rational}(1, 2) + \text{sym.Rational}(1, 3)$   
 (B)  $\text{sym.Rational}(2, 3) + \text{sym.Rational}(3, 3)$   
 (C)  $\text{sym.Rational}(6, 5)$   
 (D)  $\text{sym.Rational}(2, 6) + \text{sym.Rational}(3, 0)$

### PART – B (5 × 10 = 50 Marks)

Answer ALL Questions

Marks RI CO PO

26. a. Explain Bohm\_Jqcopini's structured program theorem with its components. 10 2 1 2
- (OR)
- b. Explain Inheritance and its types with an example. (Choose any one programming languages: C++, java, python). 10 2 1 2