

**Notes:**

1. Question paper is divided into three parts i.e. Part A, Part B, and Part C.
2. Part A consist 40 questions of 1 mark each
3. Part B consist 20 questions of 2 marks each.
4. Part C consist 15 questions of 4 marks each.
5. All questions are compulsory Part A (One Mark Question)

Qs 1. A ---- is program that takes as input a program written in one programming language and produces as output a program in another language.

1. Language translator
2. translator
3. interpreter
4. compiler

Qs 2. the designer expresses the ideas in terms related to the ----

1. application domain
2. execution domain
3. all of the above
4. none of the above

Qs 3. to implement the ideas, their description has to be interpreted in terms related to the the ---  
-----

1. application domain
2. execution domain
3. all of the above
4. none of the above

Qs 4. the semantic gap has many consequences like -----

1. large development time
2. large development efforts
3. poor quality of software
4. all of the above

Qs 5.PLS stands for

1. procedure languages
2. Programming languages
3. periodic languages
4. none of the above

Qs 6. use of PL can be grouped into (1)specification , design and coding steps  
(2) PL implementation steps

1. true
2. false

Qs 7. software implementation using a PL introduces a new domain ---

1. application domain
2. execution domain

3. all of the above
4. PL domain

Qs 8. the gap between the PL and execution domains is known as

1. specification –and design gap
2. specification gap
3. both of the above
4. none of the above

Qs 9. Each domain has ----- language .

1. design
2. programming
3. specification
4. all of the above

Qs 10. A language processor is a software which bridges a specification or execution gap.

1. true
2. false

Qs 11. semantics represents rules of meaning of a domain.

1. true
2. false

Qs 12. semantic gap represents the difference between the semantics of two domains

1. true
2. false

Qs 13. program generation activities and program execution activities are the processing activities comes under -----.

1. processing activities
2. language processing activities
3. all of the above
4. none of the above

Qs 14 TP stands for

1. Transaction program
2. Target program
3. Terminal program
4. target processing

Qs 15. Reduction in the specification gap does not increases the reliability of the generated program.

1. True
2. False

Qs 16. Program translation model bridges the execution gap by translating a program written in a PL, called the ----- ,into an equivalent program in the machine or assembly language of the computer system called the -----.

1. source program, target program
2. target program, target program
3. source, source program
4. target program, source program

Q17. \_\_\_\_\_ is a generic term referring to any computer software's, which manages & controls the hardware so that application software can perform a task.

1. os
2. Application software
3. System software
4. All of the above

Qs 18. If system software is stored no- volatile storage such as integrated circuit, it is usually termed as -----.

1. os
2. Application software.
3. firmware
4. None of the above

Qs19. Von Neumen architecture are generally used interchangeably

1. True
2. False

Qs20. a \_\_\_\_ of pixels represent a computer graphic data like pictures, frames of movie drawings or frame of an animation.

1. Collection
2. Bit Value
3. Grid
4. All of the above

Qs 21. JPEG & GIF are two graphics format used on the Internet as a \_\_\_\_\_ format.

- 1 wide
2. Extended
3. Less Memory
4. Compressed

Q22. CISC stands for

1. Computer Instruction set computer
2. Complex instruction set computer
3. Coordinated instruction set computer
4. None of the Above

Qs23. DEC expanded as

- 1 Drawing Equipment Corporation
- 2 Digital Equipment Corporation.

Qs 24. CISC made a computer assembly language more like a high level language to begin with leaving the compiler less to do.

1. True
2. False

Qs 25 Risc stands for.

- 1 Risk Instruction set computer
- 2 reduced instruction set computer
- 3 None of the above

Qs 26. In Assembly Language each statement has two operands; the first operand is always a \_\_\_\_\_ which can be any one of the AREG, BREG, and CREG & DREG

1. Register
2. Assemble
3. All of the above

Qs 27. A ----- is a particular kind of unintentional memory consumption by a computer program where the program fails to release memory when no longer needed.

1. memory
2. memory leak
3. storage area
4. all are correct

Qs 28. Static memory, stack based allocation and dynamic memory allocation are storage allocations takes in computer program for running of the user program

1. correct
2. Incorrect

Qs 29. Shift-Reduce parsing and bottom-up parsing are not interchangeable terms

1. Valid
2. Invalid

Qs 30. there are different classes for grammar based parsers

1. universal
2. top-down
3. bottom-up
4. all of the above

Qs 31. Binary object file attributes are specified with the-----

1. Machine
2. OS
3. BFF
4. all of the above

Qs 32. Library is a collection of subprograms used to develop software.

1. true
2. false

Qs33. macros are abbreviations for arbitrary fragments of C code, and then the C preprocessor will replace the macros with their definitions throughout the program during-----

1. Macro expansion
2. conditional compilation
3. line control
4. all of the above

Qs 34. MASM is an ----- for x86 family of microprocessors.

1. assembler
2. compiler
3. linker
4. loader

Qs 35. SPARC assembler stands for

1. serial processor architecture
2. Sun microsystem processor architecture
3. scalable processor architecture
4. none of the above

Qs 36. MOT (Machine operation table) contains

1. name
2. length
3. binary code and format
4. all of the above

Qs 37. The content of MOT table are not filled in or altered during the assembly process.

1. True
2. False

Qs 38. Assembler directives instruct the assembler to perform certain actions during the assembly of a program.

1. Valid statement
2. Invalid statement

Qs 39. Imperative / declarative and assembler directives are three kinds of statements supported by an assembly program.

1. Correct
2. Incorrect

Qs 40. The ----- instructions move a value between a memory word and a register.

1. BC
2. MOVE
3. MOVER
4. MOVEM

### **2-Marks Questions (Qs 1 to Qs 20.)**

Qs 1. the specification gap is bridged by the software development ----- and the execution gap is bridged by the designer of the -----

1. team , programming language processor
2. team, translator
3. both 1 and 2
4. none of the above

Qs 2. The -----language is a specification language of an application domain and the ----- language is typically a procedure oriented PL.

1. source, target
2. target, target
3. source, source
4. target, target

Qs 3. Popular models for program execution are ----- and -----

1. translation, programming
2. interpretation , programming
3. Translation, interpretation
4. all of the above

Qs 4 ASCII code uses \_\_\_\_\_ bits for each character since there are exactly \_ unique combinations of seven bits.

1. 8, 256
2. 7, 128
3. 10, 128
4. 8, 128

Qs 5 ASCII-8 uses \_\_\_\_\_ bits for each character since there is exactly \_\_\_\_\_ unique combination of eight bits.

1. 8, 256
- 27, 128
- 310, 128
- 4 8, 128

Qs 6. The ASCII representation has been adopted as a standard by the US govt & is found in a variety of computer particularly \_\_\_\_\_ & \_\_\_\_\_

1. Super computer, Mainframe Computer
2. Mainframe & Micro Computer.
3. Mainframe & Mini Computer
4. Mini Computer & Micro Computer

Qs 7. MOVE instruction is used to move a value between a memory & a register.

1. True
2. False

Qs 8. ----- is an example of top-down parsers and ----- is an example of bottom-up parsers.

1. LL, LR
2. LR, LL
3. LL parser and LR parsers
4. LL, LL

Qs 9. In deterministic automata, for each state there is at most ----- transition for each possible input. In non-deterministic automata, there can be ----- transition from a given state for a given possible input.

1. many , atleast one
2. one, more than on
3. many, many
4. one , one

Qs 10. Libraries contain ----- and ----- which provide services to independent programs.

1. source code , object code
2. test plan , source code
3. helper code , data
4. data , information and knowledge

Qs 11. A macro call leads to ----- . During macro expansion , the macro statement is replaced by sequence of ----- .

1. conditional compilation , assembly statements
2. macro expansion, assembly statements
3. line control, statements
4. macros definition , statements

Qs 12. The first pass of assembler is only to define the ----- ; the second pass can then generate -----

1. address, instruction
2. symbols, data
3. symbols, instruction and addresses
4. address, symbol

Qs 13. In assembly language , each statement has two operands , the first operand is always a --- ----- which can be any one of AREG, BREG, CREG and DREG. The second operands refers to a - ----- using a symbolic name and an optional displacement.

1. memory word, register
2. register, memory word
3. index value, register
4. register, index value

Qs 14. Link editor is a program, that takes one or more objects generated by ----- and Assembles them into a single ----- program .

1. linker, executable
2. loader, compiled
3. compilers, executable
4. compilers, compiled

QS 15. When one uses a C compiler under a unix system to generate an executable from the C source code , the C compiler driver will usually invoke a C -processor, ----- , assembler and ---- ---- in that order to translate the C-language code into the executable file.

1. linker, compiler
2. link- editor, assembler
3. compiler, loader
4. compiler, link editor

Qs 16. A binary object file is either an executable file that runs on a particular machine or a file containing object code that needs to be linked . the object code is generated by a ---- or by an ---- ---.

1. linker, loader
2. link editor, loader
3. compiler, assembler
4. assembler, linker

Qs 17. A ----- table can be provided in the header of the object code file. Each “fixup” is a pointer to an address in the object code that must be changed when the -----relocates the program.

1. FAT , loader
2. Fixup , loader
3. MOT, compiler
4. all of the above are correct

Qs 18. FSM is an old -----representation and system -----technique

1. data , modeling
2. knowledge, modeling
3. information, simulating
4. abstract, simulating

Qs 19. state transition diagram also called as ----- , shows the relationships between stats inputs that cause -----

1. bubble diagram , state transitions

2. quick diagram, state transitions
3. merge diagram, transitions
4. UML , transitions.

Qs 20. ----- a form of UML notation used to show behavior of an individual object as a number of states and transitions between those states.-----a flow diagram with the addition of bubbles that show waiting for external inputs.

1. state-action decision diagram , statechart diagrams
2. statechart diagram, stateaction-decision diagram
3. state transition , statechart diagrams
4. state-action-decision, state transition diagram

#### 4-Marks Questions (Qs 1 to Qs 15.)

Qs 1. If the source language is a high level language such as fortran or cobol and the object language is a low level language then such a translator is called -----, translator transform a programming language into a simplified language called intermediate code called ----- , if the source language is assembly language and the target language is machine language the translator is called -----, and translators that takes program in one high level language into equivalent programs in another high level language called -----.

1. preprocessor, compiler, assembler and interpreter
2. compiler, interpreter, assembler, preprocessor
- 3.interpreter, compiler, assembler, preprocessor
- 4.all of the above are correct

Qs 2 the Von Neumann architecture is a computer design model that uses a ----- & ----- to hold ----- & -----.

1. Data & instruction, storage structure & processing unit
2. Knowledge & data, cpu speed & Structure
3. Storage structure & processing unit, data & instruction,
4. Data & instruction, Knowledge & data.

Qs 3. CISC supports extensive manipulation of \_\_\_\_level computational elements & events such as \_\_\_\_, \_\_\_\_ &\_\_\_\_.

1. Low, Memory, Binary arithmetic & addressing.
2. High, Memory, binary arithmetic & addressing.
3. Middle, Memory, binary arithmetic & addressing.
4. None of the Above

Qs 4. Risc or reduced instruction\_\_\_\_\_. Is a type of\_\_\_\_\_ architecture that utilizes a small, \_\_\_\_\_set of instruction rather than a more \_\_\_\_\_of instructions often found in other type of architecture

- 1.Set computer, microprocessor, highly optimized, specialized set.
- 2 Specialized set, microprocessor, highly optimized, Set computer,
- 3 Set computer, microprocessor, specialized set, highly optimized,
- 4 None of the above

Qs 5. . ----- is the process of analyzing a sequence of ----- to determine its grammatical structure with respect to a given ----- . A parser is the component of a --- that carries out this task.

1. parsing , tokens , formal grammer, compiler
2. compiling , keywords , grammer , assembler
3. parsing , keywords, grammer, assembler
4. parsing, tokens, grammer, assembler



Qs 6.----- is the process of replacing symbolic references or names of libraries with actual usable addresses in memory before running a program. It is done by ----- during ----- although it can be done at run-time by a -----.

1. parsing, loader, linker, loader
2. relocation, linker, loader, compilation
3. relocation, linker, compilation, loader
4. loading, loader, parsing, compiler

Qs 7. Match the register names and their meanings  
Column A Column B

1. AX - stack pointer
  2. DX - base pointer
  3. BP - base register
  4. SP - accumulator register
- Destination index  
- addition register

Qs 8. SP-ESP is the sacred stack pointer. With the important ----, ----, ----- and ----- instructions requiring its value.

1. front, rear, push, pop
2. push, pop, call and Ret
3. clear, push, pop, call
4. pop, clear, call, ret

Qs 9. An ----- is a program which accepts assembly language program as input and produces its equivalent ----- as output along with information for the loader. The input to the assembler program is called ----- and the output is called the -----

1. compiler, machine language program, object program, source program.
2. assembler, machine language program, source program, object program.
3. linker, machine language program, source program, object program.
4. loader, machine language program, source program, object program.

Qs 10. Bootstrapping can also refer to the development of successively more -----, ----- The simplest environment will be perhaps, a very basic ----- and an ----- program.

1. complex, faster programming environment, text editor, assembler
2. simple, faster programming environment, text editor, linker
3. complex, slow programming environment, text editor, loader
4. complex, Average programming environment, text editor, linker

Qs 11. code optimization is an optional phase designed to improve the ----- code so that the ultimate object program runs ----- and takes ----- space. Its output is another intermediate code program that does the same job as the original, but perhaps in a way that saves time and space.

1. intermediate, faster, less, time and space
2. program, slow, more, time and space
3. complex, faster, more, time and space
4. more, faster, program, time / space

Qs 12. The bookkeeping portion of the ----- keeps track of the names used by the program and records essential information about each such as its -----  
The ----- used to record this information is called -----

1. compiler, type (Int. Real), MOT
2. compiler, type (int, real), data structure, symbol table

3. linker, datatype, structure, table
4. loader, datatype, structure, symbol table.

Qs 13. the lexical analyzer is the interface between ----- and ----- . The lexical analyzer reads the ----- program one character at a time, carving the source program into a sequence of characters that can be treated as a single logical entity. Identifiers, keywords, constants, operators, and punctuation symbols such as commas, and parentheses are typical-----.

1. object code , compiler, source, tokens
2. source program , compiler , source , tokens
3. keywords , source code, object , tokens
4. source code, object code, keywords, tokens

QS 14. Match the column A with column B Column A Column B

- (1.) FSM - (a) Context free grammar
  - (2.) HTA - (b) Natural Language processing
  - (3.)NLP - (c) Hierchical Task Analysis
  - (4.) CFG - (d) Finite state machine
1. (1)-d,(2)-c,(3)-b,(4)-a
  2. (1)-a,(2)-c,(3)-b,(4)-d
  3. (1)-d,(2)-b,(3)-c,(4)-a
  4. (1)-b,(2)-c,(3)-d,(4)-a

Qs 15. A ----- is a set of computer software programs and data structure which implements a specific----- . This model accepts a form of computer intermediate language , commonly referenced to as-----, which conceptually represents the instruction set of stack-oriented capability architecture. This code is generated by -----language compilers.

1. JVM, model, byte, C++
2. JVM, virtual machine model, java byte code, Java
3. FSM, virtual machine model, byte, VB
4. FSM, virtual machine model, java byte code, Java