SUBJECT: SYSTEM SOFTWARE
QUESTION BANK

Q.1	What is a Language Processor?
Q.2	Explain Language Processing activities in brief.
Q.3	Explain Life Cycle of a Source Program.
Q.4	Write a short note on Text Editors and its types.
Q.5	What are phases and passes? Compare and contrast.
Q.6	Draw diagram and explain the analysis phase of a Language Processor.
Q.7	Briefly explain IR with an example.
Q.8	Draw diagram and explain the synthesis phase of a Language Processor.
Q.9	Write a Short note on the Symbol Table.
Q.10	What are the different data structures used for symbol table? List them and explain it briefly.
Q.11	Draw a diagram and explain the working of a toy compiler.
Q.12	Write a short note on Program execution activities.
Q.13	What is the role of the program generator domain?
Q.14	What are the different operations provided by the symbol table?
Q.15	Explain Sequential search organization using an example.
Q.16	What are self organizing lists?
Q.17	How is a token searched in search trees? Explain with an example.
Q.18	How does hashing work?
Q.19	What are the allocation data structures used for?
Q.20	Compare and contrast Stack and Heap.
Q.21	What are the characteristics of a system software?

Q.22	What is assembler and assembly language? Give its advantages.
Q.23	What are the basic functionalities provided by an Assembler.
Q.24	What are the types of Assembler?
Q.25	Explain the elements of Assembly code and types of statements.
Q.26	Explain the design of a Two pass assembler
Q.27	How does Single pass assembler work?
Q.28	Define Forward reference and it can be solved.
Q.29	Briefly discuss backpatching.
Q.30	What are the different tables used in Two pass assembler.
Q.31	What are the different ways to write intermediate code?
Q.32	Explain Assembler directives.
Q.33	Write difference between Single pass and Two pass assembler.

	Which of the following activities involves checking tokens against the grammatical rules of a programming language? a) Lexical Analysis b) Syntax Analysis c) Semantic Analysis d) Option (a) and (c) **Answer:** b) Syntax Analysis
	Which of the following is not a program execution activity ? ● **a) Fetching or** loading the program ● **b) Parsing** ● **c) Decoding or** interpreting the program instructions

	• **d) Executing or** executing the program **Answer: b) Parsing** • The program execution activity involves loading the program into the memory of the computer system, interpreting the program instructions, and executing them on the computer system.
	Bloom's Level: Analysis Question: **In the lifecycle of a source program, which phase directly follows the compiling stage?** • **a) Editing** • **b) Linking** • **c) Executing** • **d) Debugging** **Answer: b) Linking**
	Bloom's Level: Knowledge Question: **Which of the following is an example of application software?** • **a) Operating System** • **b) Device Driver** • **c) Word Processor** • **d) Compiler** **Answer: c) Word Processor**

	Bloom's Level: Comprehension Question: **How does application software differ from system software?** ● **a) Application software manages hardware resources, while system software provides entertainment functions.** ● **b) Application software performs specific user-oriented tasks, while system software provides the necessary platform for running application software.** ● **c) Application software is always pre-installed on computers, while system software must be installed separately.** ● **d) Application software includes device drivers, while system software includes word processors.** **Answer: b) Application software performs specific user-oriented tasks, while system software provides the necessary platform for running application software.**
	Bloom's Level: Application Question: **A computer has a new printer connected to it. Which type of software must be installed to ensure the printer functions properly?** ● **a) Operating System** ● **b) Application Software** ● **c) Device Driver** ● **d) Compiler** **Answer: c) Device Driver**

	Bloom's Level: Analysis Question: **Analyze the relationship between system software and application software. Which of the following statements is true?** ● **a) System software depends on application software to function correctly.** ● **b) Application software provides the platform for system software to run.** ● **c) System software is essential for running application software, but not vice versa.** ● **d) Both types of software are independent and do not interact. Answer: c) System software is essential for running application software, but not vice versa.**
	If a program fails to execute due to missing libraries, during which stage did an error likely occur? ● **a) Edit time** ● **b) Compile time** ● **c) Link time** ● **d) Run time** **Answer: c) Link time**
	Bloom's Level: Analysis Question: **In a symbol table implemented using a linear structure, what is a**

	potential disadvantage compared to using a hash table? ● **a) Linear structures often provide faster lookup times for large datasets.** ● **b) Linear structures may require more complex handling of collisions.** ● **c) Linear structures are less efficient in managing memory allocation dynamically.** ● **d) Linear structures can result in slower search times due to lack of indexing.** **Answer: d) Linear structures can result in slower search times due to lack of indexing.**