

AQ-952

**M.Sc. Part-II Semester-II (CBCS Scheme)
Examination**

COMPUTER SCIENCE

(Compiler Construction)

Paper—2 MCS 4 (2) (GIC)

Time : Three Hours]

[Maximum Marks : 80

- Note :-** (1) ALL questions are compulsory.
(2) Figure to the right indicate full marks.
(3) Assume suitable data wherever necessary.
(4) Illustrate your answers with the help of neat sketches.

1. (a) Explain the "Analysis phase" of the compiler. 7
(b) Define 'Grammar' and explain working of 'Regular Grammar'. 7

OR

2. (a) Explain the "Synthesis phase" of the compiler. 7
(b) Explain the following :
(i) Boot strapping
(ii) Book keeping. 7
3. (a) Explain the concept of "Bottom up" parsing with suitable example. 7

- (b) Explain various methods of 'symbol table organization.' 7

OR

4. (a) Explain structure and working of the 'top downing' parsing. 7
 (b) Differentiate between 'scanning' and 'parsing.' 7
5. (a) Differentiate between static and dynamic memory allocation. 6
 (b) Explain in brief how compilation of expressions takes place. 7

OR

6. (a) Explain the concept of memory allocation for strings. 6
 (b) Explain the following :
 (i) Array allocation
 (ii) Structure allocation. 7
7. (a) Explain in detail the working of 'procedure call' in compilation. 6
 (b) Explain the working of :
 (i) Completely matched IF structure
 (ii) Partially matched IF structure. 7

OR

8. (a) Explain evaluation of factorial of a given number with the help of recursive procedure call. 6

- (b) Explain in detail, what are the problems related to do structure in implementation. 7

9. (a) What are different sources of errors ? Explain in detail different types of errors. 6
 (b) What are different methods to handle errors during reductions ? 7

OR

10. (a) What are the basic methods of recovering from syntax errors ? 6
 (b) What are different methods of error recovery in LL parsing ? 7
11. (a) What is DAG ? Explain its construction and various applications. 6
 (b) Explain in detail "Global Data flow Analysis." 7

OR

12. (a) Explain "Loop optimization" in detail. 6
 (b) Explain in detail "peephole optimization." 7