

**BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)**  
**B. Tech. Sem - V COMPUTER SCIENCE & ENGINEERING-A&M : SUMMER : 2024**  
**SUBJECT: COMPILER CONSTRUCTION**

Day : Wednesday  
Date : 15/05/2024

S-23962-2024

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat labelled diagrams **WHEREVER** necessary.

**Q.1** Explain different phases of compiler with suitable example. (10)

**OR**

**Q.1** Convert given Regular Expression to DFA using Direct Method.  
(a|b)\*abb

**Q.2** Determine whether the given grammar is CLR and LALR or not. (10)  
S → CC  
C → cC  
C → d

**OR**

**Q.2** Differentiate between Top-Down Parser and Bottom-Up Parser with suitable example. (10)

**Q.3** Explain with suitable example Synthesized Attribute. How it is helpful in SDT? (10)

**OR**

**Q.3** Differentiate between S- attributed and L- attributed SDT. (10)

**Q.4** Explain the methods for constructing DAG. (10)

**OR**

**Q.4** Generate 3AC for the following code. (10)  
while (a<b) do  
if (c<d) then  
x=y+z  
else  
x=y-z

**Q.5** Explain with example DAG representation of Basic Blocks. Write algorithm for same. (10)

**OR**

**Q.5** Explain in detail Principles Sources of Optimization. (10)

**Q.6** Explain Register allocation and assignment allocation with suitable example. (10)

**OR**

**Q.6** Write short note on TURBO-C and JIT compiler. (10)

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