MCA 2nd Semester Examination, 2025

MCA

(Compiler Design Lab)

(Practical)

PAPER—MCA-209

Full Marks : 50

Time : 3 hours

Answer **all** questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP — A

Answer any **two** from the following questions :

$17\frac{1}{2}\times2$

1. Write a Lex/Yacc program to count the number of lines, words, characters in a given string.

2. Write a Lex/Yacc program to remove all single-line (//) and multi-line (/* */) comments from a given C program.

3. Write a Lex/Yacc program to identify and extract HTML tags from an HTML input text.

4. Write a Lex/Yacc program to count the number of vowels and consonants in a given sentence.

5. Write a Lex/Yacc program to recognize C language keywords, identifiers, and numbers from the given input text.

6. Write a Lex/Yacc program to check whether a given sentence is a simple or compound statement.

7. Write a Lex/Yacc program to delete blank spaces and then count the number of spaces of a given file.

8. Write a Lex/Yacc program to implement a simple desk calculator.

9. Write a Lex/Yacc program to check a given arithmetic statement is valid or not.

10. Write a Lex/Yacc program to prepend line numbers to each line of a given file.

11. Write a Lex/Yacc program to convert a given binary number to its decimal equivalent.

12. Write a Lex/Yacc program to check whether a given string is a palindrome.

GROUP – B

Answer any **one** question :   15×1

13. Write a Program in LEX/YACC to check whether a given string is a valid identifier Keyword, RELOP (Relational Operator) or others.

14. Construct a syntax directed translation scheme that translates integers into roman numerals. Implement translator from integers to roman numerals based on above syntax directed translation using LEX/YACC.

15. Write a Program in LEX/YACC to check whether a sentence of English language is grammatically correct or not.

16. Write a Program in LEX/YACC which takes a C program as input and delete the comment, white spaces and Count the no. of lines.

17. Write a Program in LEX/YACC which counts the no. of lines, total no. of characters, total no. of vowels and total no. of punctuation marks in a paragraph.

18. Program to recognize a valid arithmetic expression and to recognize the identifiers and operators present. Print them separately.

Viva - 10

PNB - 5