Total No. of Questions : 12]

SEAT No. :

P2462

[Total No. of Pages : 3

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T.E. (Information Technology)

SYSTEM SOFTWARE PROGRAMMING

(2008 Pattern) (Semester - II)

Time :3 Hours] *[Max. Marks :100*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, from Section I and Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from section II.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***
5) ***Assume Suitable data if necessary.***

SECTION - I

Q1) a) What do you mean by pass explain Analysis and Synthesis phase of a two Pass assembler. **[8]**

b) Explain batch-patching with respect to Single Pass Assembler with suitable example. **[6]**

c) Explain the term System Programming. **[2]**

OR

Q2) a) Describe algorithm of Pass I of two Pass assembler with example. **[8]**

b) Enlist different types of errors that are handled by Pass I and Pass II of two Pass assembler. **[8]**

Q3) a) Explain parameter passing techniques in Macro processor with suitable example. **[8]**

b) Enlist different data structures required during Pass I and Pass II of two pass Macro Processor. **[8]**

OR

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Q4) a) Explain pass-I of two pass macro processor with suitable example. **[8]**

b) Explain Nested Macro definition with example. **[8]**

Q5) a) Describe different phases of compiler with suitable examples. **[10]**

b) What are the advantages and disadvantages of top down parsing. **[8]**

OR

Q6) a) What is Lexical Analysis? Explain lexical analyzer with suitable example and show the contents of different tables. **[10]**

b) Describe shift reduce parser with example. **[8]**

SECTION - II

Q7) a) Explain following Machine Independent code optimization techniques. **[12]**

i) Common sub expression elimination

ii) Loop Invariants

iii) Constant Folding

b) Write a short note on activation record. **[4]**

OR

Q8) a) Explain the importance of intermediate code generation in compiler. **[4]**

b) Discuss code generation issues. **[6]**

c) Explain any two machine dependent code optimization technique with suitable example. **[6]**

Q9) a) Explain with flow chart design of absolute loader. **[6]**

b) What is loader? Enlist the basic functions of a loader. **[6]**

c) Explain Compile and Go Loader scheme. **[6]**

OR

Q10)a) Compare linking loader and linkage editor. **[4]**

b) Explain RLD and TXT cards. **[4]**

c) Explain Binary Symbolic Subroutines (BSS) loading scheme with example. Also discuss how allocation, relocation, linking & loading is done. **[10]**

Q11)a) Explain in detail typical editor structure. **[8]**

b) Explain Debug Monitor in detail. **[4]**

c) Explain YACC file structure. **[4]**

OR

Q12)a) State merits and demerits of line and screen editors. **[4]**

b) Write a short note on. **[12]**

i) Programming Environment

ii) User Environment

iii) LEX