Sardar Patel Institute of Technology

ıavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous College Affiliated to University of Mumbai)

Reexamination Paper

January 2019

Max. Marks: 100 **Duration: 3 hrs**
Class: T.E. **Semester: VI**
Course Code:CPC601 **Branch: COMP**
Name of the Course: System Programming and Compiler Construction

Instructions:

(1) All Questions are Compulsory
(2) Draw neat diagrams
(3) Assume suitable data if necessary

Question No.	Question	Max. Marks	CO
Q1 (a)	Write five distinguishing points between compilers and interpreters. Explain the working of phases of compiler with neat diagram. **OR** Write a short note on operator precedence parser with the help of example.	*10* *10*	*CO3* *CO3*
Q1 (b)	Consider the following grammar. S → AA A→ a A | b i. Draw state transition diagram of LR(0) automaton. ii. Construct LR(0) parsing table. iii. Parse input string "aabb".	*10*	*CO3*
Q2 (a)	Construct LL(1) parsing table for the following grammar, where S is a start symbol. $S \rightarrow i\ E\ t\ S\ S_1 \mid a$ $S_1 \rightarrow e\ S \mid \epsilon$	*10*	*CO3*
Q2 (b)	What do you mean by DAG ? Explain with example .	*10*	*CO4*
Q3 (a)	Explain the use of Assembler. Explain structure of POT and MOT and its uses.	*10*	*CO2*
Q3 (b)	With reference to IBM 360/370 explain with example following instruction format (i) RR (ii) RX (iii) SS (iv) SI	*10*	*CO2*
Q4 (a)	What is the use of Macro-processor ? Explain the use of AIF and AGO along with the example.	*10*	*CO2*
Q4 (b)	Explain the design of Absolute loader along with example **OR** With reference to Direct linking loader , Explain the structure and use of ESD cards , and RLD cards	*10* *10*	*CO1* *CO1*

Q5 (a)	What do you mean by 3 address code statements? Explain any 4 forms of 3 address codes.	*10*	*CO4*
	OR		
	Explain the concept and role of Code Optimization in compiler designing. Explain peephole optimization along with example.	*10*	*CO4*
Q5 (b)	What are the different storage allocation strategies? Explain any two strategies.	*10*	*CO5*
	OR		
	What do you mean by Back patching? Explain with example.	*10*	*CO5*