



# Sardar Patel Institute of Technology

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

## Mid Semester Examination

March 2018

Max. Marks: 30

Class: TE

Course Code: CPC601

Name of the Course: System Programming and Compiler construction SYNOPSIS

Duration: 90 Mins

Semester: VI

Branch: Computer

### Instruction:

- (1) All questions are compulsory
- (2) Draw neat diagrams
- (3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1	Illustrate the concept of an absolute loader? What are its disadvantages? Concept of absolute loader ( 2 Marks ) For each Disadvantages 1 Mark ( 1 Mark * 3 ) OR With reference to Direct Linking Loader, what is the use of GEST and LESA? 1. GEST ( 2.5 Marks ) 2. LESA ( 2.5 Marks )	05	CO1
Q.2	What are the different storage allocation strategies? Explain stack allocation strategy in detail 1. Names of Strategies stack , static , heap ( 1 Marks ) 2. Stack allocation strategies ( For each point 1 Marks * 4 ) OR Explain the importance and contents of Symbol Table with reference to RUN TIME Storage management? suggest at least two data structures for maintaining SYMBOL TABLE ? 1. Importance and contents ( 2 Marks ) 2. For each data structure ( 1.5 Marks * 2 )	05	CO5
Q.3	What are the different conditional reordering pseudo-ops available with reference to Macro processor? Explain with example. 1. AIF ( 2.5 Marks ) 2. AGO ( 2.5 Marks )	05	CO2
Q.4	With reference to Twopass assembler give the use of following Pseudo ops using small example. 1. USING and DROP ( 2.5 Marks ) 2. LTORG ( 2.5 Marks )	05	CO2

Q. 5	$S \rightarrow S * E$ $S \rightarrow E$ $E \rightarrow F + E$ $E \rightarrow F$ $F \rightarrow id$ <p>Find whether the above grammar is LL(1) or not. Construct LL(1) parsing table.</p> <p>1 mark for finding the occurrence of left recursion and eliminating it correctly, otherwise 0 marks</p> <p>1 mark for determining whether there is need to left factor the grammar or not and then left factoring it, otherwise 0 marks</p> <p>3 marks for correct parsing table, One mistake in parsing table is tolerable but if it exceeds more than 1 then 0.5 marks will be deducted for each incorrect entry.</p> <p>1 mark to state the reason for the grammar to be LL(1) or not, otherwise 0 marks</p>	6	CO3
Q.6	<p>Write a short note on input buffering in lexical analysis with example.</p> <p>answer should include keywords like lexemebegin pointer, forward pointer, sentinel(eof)</p> <p>1 mark for example</p> <p>3 marks for description of how exactly input buffering takes place in lexical analysis.</p>	4	CO3