

DAYANANDA SAGAR COLLEGE OF ENGINEERING

Date: 13/4/2018

Marks: 50

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| 1. For any propositions p,q,r simplify the following using laws of logic i. $(p \vee q) \wedge \sim\{(\sim p) \vee q\}$ ii. $\sim[\sim\{(p \vee q) \wedge r\} \vee \sim q]$ | 10 | 4 | 2 |
| 2. If $dy/dx=xy+y^2$; $y(0)=1$, $y(0.1)=1.1169$, $y(0.2)=1.2773$, $y(0.3)=1.5049$ Find $y(0.4)$ correct to three decimal places, using the Milne's predictor – corrector method. Apply the corrector formulae twice. | 10 | 6 | 2 |
| 3. Distinguish between the following pairs of terms: i) CPU burst and I/O burst jobs ii) User's view and system's view of OS. iii) Batch systems and time sharing systems. iv) User mode and kernel mode operation | 10 | 2 | 3 |
| 4. Using Taylor's series method, find y at $x=0.1$ and $x=0.2$ considering up to 4th degree terms. Given that $dy/dx=x^2 y-1$ and $y(0)=1$. | 10 | 5 | 2 |
| 5. Define a system call with an example of how they are used | 10 | 3 | 1 |

CO	Statement
1	Use the core python scripting concepts like control statements, string manipulation functions and the built-in data structures like list and dictionary.
2	Be able to design, code and test small python programs that make use of functions.
3	Demonstrate usage of file handling and pattern matching using regular expressions.
4	Build GUI for applications using python libraries.
5	Demonstrate MySQL database connectivity using python scripting.
6	Apply the knowledge of python and use the language scripting elements and constructs, data structures, and repository of standard library, to develop real world applications.