

**R09**

**Code No: 54028**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B.Tech II Year II Semester Examinations, December - 2017**

**PRINCIPLES OF PROGRAMMING LANGUAGES**

**(Information Technology)**

**Time: 3 hours**

**Max. Marks: 75**

**Answer any five questions**

**All questions carry equal marks**

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- 1.a) What are the three fundamental features of an object-oriented programming language?  
b) List the potential benefits of studying programming language concept. [6+9]
- 2.a) Define CFG? Discuss briefly about BNF Grammars.  
b) What is meaning of the preconditions and post conditions of given statement in axiomatic semantics? Explain. [8+7]
- 3.a) Define the following:  
i) Coercion  
ii) Type error  
iii) Type Checking  
iv) Strong Typing  
b) What are the design issues for unions? [8+7]
- 4.a) How does C support relational and Boolean expressions? Illustrate with an example.  
b) What are the design issues for multiple-selection statements? [9+6]
- 5.a) What are formal parameters and actual parameters?  
b) What are the two fundamental design considerations for parameter-passing methods?  
c) What is parametric polymorphism? Explain briefly. [6+4+5]
- 6.a) Explain how information hiding is provided in an Ada package.  
b) Describe the situation where dynamic binding is greater advantage over its absence. [8+7]
7. How can an exception handler be written in Java so that it handles any exception? Illustrate with an example. [15]
8. Explain the following with respect to Python:  
a) Procedural abstraction  
b) Data abstraction. [8+7]

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