

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: CSE**

**SEMESTER : VII
SESSION : MO/19**

SUBJECT: CS7101 PRINCIPLES OF PROGRAMMING LANGUAGES

TIME: 3:00 HOURS

FULL MARKS: 60

INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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| Q.1(a) What is language processor? | [2] |
| Q.1(b) Define Syntax, semantics and pragmatics of a programming language. | [4] |
| Q.1(c) Briefly explain the key concepts of imperative programming. | [6] |
| Q.2(a) What is dangling pointer? | [2] |
| Q.2(b) Explain the different problems associated with ADA packaging based on public type component only. | [4] |
| Q.2(c) Briefly explain the use of ADA limited private type. | [6] |
| Q.3(a) What are the merits of sub range types? | [2] |
| Q.3(b) Explain the various advantages of generics in detail. | [4] |
| Q.3(c) Briefly explain the concept of ADA based exception handling. | [6] |
| Q.4(a) What is starvation? | [2] |
| Q.4(b) Explain the various advantages and disadvantages of semaphore. | [4] |
| Q.4(c) Briefly explain Dekker's spin lock algorithm. | [6] |
| Q.5(a) What is sequencer? | [2] |
| Q.5(b) Explain different design issues of object-oriented languages. | [4] |
| Q.5(c) Explain inclusion polymorphism with a suitable example in C++. | [6] |
| Q.6(a) What are characteristics of functional programming. | [2] |
| Q.6(b) What is Lazy evaluation in functional programming. Explain the downside of this technique also. | [4] |
| Q.6(c) Explain Haskell pattern matching with a suitable example. | [6] |
| Q.7(a) What is Horn clause in logic programming? | [2] |
| Q.7(b) Briefly explain the concept of existential queries. | [4] |
| Q.7(c) Explain the various datatypes supported in PYTHON. | [6] |

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