PPL QUESTIONS:

1) What are the phenomenology of programming language? Explain about the "fascination & fear are common to new tools"
2) What are the characteristic of good programming language?
3) "Pass by reference has dangerous consequences in FORTRAN" Justify it with example.
4) What are the importance & objectives of principles of programming language?
5) Explain the design of pseudocode and its implementation. Highlight the functional enhancement brought by the pseudocode
6) The complexity of programming led to development of program design notations. If this true, explain with reference with pseudocode.
7) Describe the control structure of FORTRAN.
8) What are programming domains? How logical programming is different with functional programming?
9) Illustrate the looping in FORTRAN by writing a program to find out the square root of the first ten natural numbers.
10) Describe NAME STRUCTURE of FORTRAN.
11) "Subprograms are implemented using Activation records in FORTRAN" Explain with examples.
12) "The GOTO is the workhorse of control flow". Explain briefly (5)
13) "The Arithmetic operators are Overloaded" Explain with example very briefly. (5)
14) Illustrate the looping in FORTRAN by writing a program to find out the sum & average of first ten odd natural numbers.
15) What is the significance of dynamic chain of activation record? Explain with examples.
16) Mention looping in FORTRAN by writing the program to find out the cube root of first 20 natural numbers.
17) Give specific examples where FORTRAN-IV violates the principle of programming languages.
18) Differentiate BNF & EBNF with the help of sytactic structure of ALGOL-60.

20) "ALGOL was a major milestone in programming language". Justify.
20) Why are naming structures essential for programming? Explain the name structure of ALGOL-60.
21) How ALGOL has changes the way of programming in efficient way? Explain
22) Explain the History and Motivation of ALGOL programming. Also Explain & mention its failure factors.
23) Prepare a note on Control structures, Data structure, Name Structure & Syntactic structure of ALGOL.
24) ALGOL follows "Zero-one-infinity" principle. Verify it comparing with FORTRAIN.
25) Explain different forms of for loop in ALGOL.
26) What are the different searching techniques in LISP. Explain them with the help of walking down diagram.
27) How cases are handled while implementing recursive List processor?
28) What is LISP? Define the structural Organisation of LISP program with example.
29) What is LISP? Explain about car and cdr & creators with example.
30) How does LISP handle simplicity principle?
31) Translate the following expressions into LISP.
i) $\frac{1}{2}\sqrt{\pi r^2 - l^2}$ ii). $\frac{-b-\sqrt{b^2-4ac}}{2a}$
32) Write assoc function in LISP to access the value of a List. How would you handle the case where the requested attribute is not associated by a List?
33) Differentiate among pass by value, pass by reference & pass by name with suitable example.
34) What is property List? Differentiate CAR and CDR.
35) What is polish notation? How hierarchal structures are processed in LISP?
36) Translate the following expression into LISP.
i). $\frac{-b+\sqrt{b^2-4ac}}{\frac{1}{2}\sqrt{4a^2-b^2}}$ ii). $\frac{(abc)^2}{\frac{1}{4}\sqrt{s(s-a)(s-b)(s-c)}}$

37) Explain an object and class specification in SMALLTALK. How does class and object are represented programmatically in SMALLTALK?

38) Explain Message passing and Returning mechanism in SMALLTALK.

39) Briefly explain the following structures in LISP.
i) The Conditional Expression
ii) The logical connectives
iii) Mapcar and reduce functions.

40) Compare and Contrast object Oriented programming facilities in c++ and Java.

41) "Optional variables declarations are dangerous in FORTRAN." Explain with suitable example.

42) Explain RECURSIVE interpreters & Storage Reclamation in LISP.

43) What are the different form of message template in SMALLTALK? Explain them.

44) "Smalltalk belong to new programming paradigm". Explain in reference to class, object & object oriented Extensions.

45) Translate the following into LISP
i) $(-1)^k k^{1/k}$ ii) $\frac{n!}{r!(n-r)!}$

46) How cases are handled while implementing recursive list processor?

47) "COMMON permits aliasing, which is dangerous in FORTRAN" Justify the statement.

48) How is Activation Record represented in SMALLTALK?

49) Write short notes On:
i) Class Representation
ii) Descriptive tools in ALGOL
iii) Nested scope in BLOCK
iv) ASSIGNED GOTO
v) Block & Scope
vi) Lamda Expression
vii) Contour Idrogram
viii) User defined function in LISP
ix). Importance of PPL.

** Few questions answer may be Similar. (Idea of one questions may lead to idea/answer to next question)
** Answer after knowing about the specific programming languages (FORTRAN, ALGOL, LISP & SMALLTALK mention ed in the questions). For eg: Don't write Data structure of ALGOL, instead if you're asked has asked you, write about FORTRAN↓ to