CHAPTER - 4 —— NUMERICALS

Function Point (FP) is an element of software development which helps to approximate the cost of development early in the process. It may measures functionality from user's point of view.

Counting Function Point (FP):

- **Step-1:** **F = 14 * scale**
- Scale varies from 0 to 5 according to character of Complexity Adjustment Factor (CAF). Below table shows scale:

```
0 – No Influence
1 – Incidental
2 – Moderate
3 – Average
4 – Significant
5 – Essential
```

Step-2: Calculate Complexity Adjustment Factor (CAF).

- **CAF = 0.65 + (0.01 * F)**

Step-3: Calculate Unadjusted Function Point (UFP). TABLE (Required)

Weights of 5-FP Attributes

Function Units	Low	Avg	High
EI	3	4	6
EO	4	5	7
EQ	3	4	6
ILF	7	10	15
EIF	5	7	10

Measurements Parameters	Examples
1.Number of External Inputs(EI)	Input screen and tables
2. Number of External Output (EO)	Output screens and reports
3. Number of external inquiries (EQ)	Prompts and interrupts.
4. Number of internal files (ILF)	Databases and directories
5. Number of external interfaces (EIF)	Shared databases and shared routines.

- Multiply each individual function point to corresponding values in TABLE.

- **Step-4:** Calculate Function Point.
- **FP = UFP * CAF**

Example - 1:
Given the following values, compute function point when all complexity adjustment factor (CAF) and weighting factors are average.

User Input = 50
User Output = 40
User Inquiries = 35
User Files = 6
External Interface = 4
Use above table in this numerical.

Explanation:

- **Step-1:** As complexity adjustment factor is average (given in question), hence, scale = 3.
- **F = 14 * 3 = 42**
- **Step-2:**
- **CAF = 0.65 + (0.01 * 42) = 1.07**
- **Step-3:** As weighting factors are also average (given in question) hence we will multiply each individual function point to corresponding values in TABLE.

- **UFP = (50*4) + (40*5) + (35*4) + (6*10) + (4*7) = 628**
- **Step-4:**
- **Function Point = 628 * 1.07 = 671.96**
  This is the required answer.

Function Point Analysis :-
Unadjusted Function Points (UFP) : 628
Complexity Adjustment Factor (CAF) : 1.07
Function Points (FP) : 671.96

Example - 2-

Consider a project with the following functional units:
a) Number of user inputs = 35
b) Number of user outputs = 60
c) Number of user enquiries = 24
d) Number of user files = 08
e) Number of external interfaces = 02
Assume all complexity adjustment factors and weighting factors are average. Compute the unadjusted and adjusted function points for this project.