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Program:

```
import java.util.Scanner; public class
ExamKTCalculator { public static void
main(String[] args) {

    Scanner scanner = new Scanner(System.in);

    String[] subjectNames = {"AM-II", "AP-II", "AC-II", "EG", "PCE"}; int[]
    maxTheoryMarks = {80, 60, 60, 60, 40}; int[] maxIATMarks =
    {20, 15, 15, 15, 15}; int[] maxTermWorkMarks = {25, 20, 20, 25,
    25}; int[] maxPracticalMarks = {0, 0, 0, 50, 0};

    int[] theoryMarks = new int[5]; int[]
    IATMarks = new int[5]; int[] termWorkMarks
    = new int[5]; int[] practicalMarks = new
    int[5]; int internalKTs
    = 0, externalKTs = 0; for (int i = 0; i <
    subjectNames.length; i++) {

        System.out.println("\nEnter marks for " + subjectNames[i] + ":");

        theoryMarks[i] = getValidInput("Theory Marks (out of " +
    maxTheoryMarks[i] + "): ", maxTheoryMarks[i]);
```

```
IATMarks[i] = getValidInput("IAT-I & IAT-II Marks (out of " +
maxIATMarks[i] + "): ", maxIATMarks[i]); termWorkMarks[i] =
getValidInput("Term Work Marks (out of " +
maxTermWorkMarks[i] + "): ", maxTermWorkMarks[i]); if
```

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(maxPracticalMarks[i] > 0) {
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    practicalMarks[i] = getValidInput("Practical Marks (out of " +
maxPracticalMarks[i] + "): ", maxPracticalMarks[i]);
}
```

```
if (theoryMarks[i] < (maxTheoryMarks[i] * 0.4)) { externalKTs++;
}
```

```
if (IATMarks[i] < (maxIATMarks[i] * 0.4) || termWorkMarks[i] <
(maxTermWorkMarks[i] * 0.4)) { internalKTs++;
} if (maxPracticalMarks[i] > 0 &&
```

```
practicalMarks[i] <
```

```
(maxPracticalMarks[i] * 0.4)) { externalKTs++;
}
}
```

```
System.out.println("\nResults Summary:"); for
(int i = 0; i < subjectNames.length; i++) {
```

```
    System.out.println(subjectNames[i] + " - Theory: " + theoryMarks[i] +
        ", IAT: " + IATMarks[i] +
        ", Term Work: " + termWorkMarks[i] +
        (maxPracticalMarks[i] > 0 ? ", Practical: " + practicalMarks[i] :
```

```

    ""));
    }
    System.out.println("\nTotal Internal KTs: " + internalKTs);
    System.out.println("Total External KTs: " + externalKTs);

    if (externalKTs > 5 || internalKTs > 4) {
        System.out.println("Result: Failed (Year Drop)");
    } else {
        System.out.println("Result: Passed");
    }

    scanner.close();

}

private static int getValidInput(String prompt, int maxMarks) {
    Scanner scanner = new Scanner(System.in); int marks; while
    (true) {
        System.out.print(prompt); marks
        = scanner.nextInt();
        if (marks >= 0 && marks <= maxMarks)
            { break; } else {
                System.out.println("Invalid input. Please enter a value between 0 and " +
maxMarks + ".");
            } } return marks;
    }
}

```

Output:

Enter marks for AM-II:

Theory Marks (out of 80): 60 IAT-I

& IAT-II Marks (out of 20): 15

Term Work Marks (out of 25): 20

Enter marks for AP-II:

Theory Marks (out of 60): 50

IAT-I & IAT-II Marks (out of 15): 15 Term

Work Marks (out of 20): 19 Enter marks  
for AC-II:

Theory Marks (out of 60): 49

IAT-I & IAT-II Marks (out of 15): 15

Term Work Marks (out of 20): 19

Enter marks for EG:

Theory Marks (out of 60): 45 IAT-I

& IAT-II Marks (out of 15): 12

Term Work Marks (out of 25): 23

Practical Marks (out of 50): 49

Enter marks for PCE:

Theory Marks (out of 40): 35

IAT-I & IAT-II Marks (out of 15): 15 Term

Work Marks (out of 25): 20

Results Summary:

AM-II - Theory: 60, IAT: 15, Term Work: 20

AP-II - Theory: 50, IAT: 15, Term Work: 19

AC-II - Theory: 49, IAT: 15, Term Work: 19

EG - Theory: 45, IAT: 12, Term Work: 23, Practical: 49 PCE  
- Theory: 35, IAT: 15, Term Work: 20

Total Internal KTs: 0

Total External KTs: 0

Result: Passed

=== Code Execution Successful ===

Enter marks for AM-II:

Theory Marks (out of 80): 23

IAT-I & IAT-II Marks (out of 20): 5 Term Work  
Marks (out of 25): 10

Enter marks for AP-II:

Theory Marks (out of 60): 10

IAT-I & IAT-II Marks (out of 15): 10 Term Work  
Marks (out of 20): 5

Enter marks for AC-II:

Theory Marks (out of 60): 15

IAT-I & IAT-II Marks (out of 15): 5 Term Work  
Marks (out of 20): 10

Enter marks for EG:

Theory Marks (out of 60): 20

IAT-I & IAT-II Marks (out of 15): 9

Term Work Marks (out of 25): 5 Practical  
Marks (out of 50): 0

Enter marks for PCE:

Theory Marks (out of 40): 35

IAT-I & IAT-II Marks (out of 15): 8 Term Work  
Marks (out of 25): 10

Results Summary:

AM-II - Theory: 23, IAT: 5, Term Work: 10

AP-II - Theory: 10, IAT: 10, Term Work: 5

AC-II - Theory: 15, IAT: 5, Term Work: 10

EG - Theory: 20, IAT: 9, Term Work: 5, Practical: 0 PCE  
- Theory: 35, IAT: 8, Term Work: 10

Total Internal KTs: 4

Total External KTs: 5

Result: Passed

=== Code Execution Successful ===

Enter marks for AM-II:

Theory Marks (out of 80): 10

IAT-I & IAT-II Marks (out of 20): 0 Term  
Work Marks (out of 25): 0

Enter marks for AP-II:

Theory Marks (out of 60): 15

IAT-I & IAT-II Marks (out of 15): 0 Term  
Work Marks (out of 20): 0

Enter marks for AC-II:

Theory Marks (out of 60): 12

IAT-I & IAT-II Marks (out of 15): 0 Term  
Work Marks (out of 20): 0

Enter marks for EG:

Theory Marks (out of 60): 35

IAT-I & IAT-II Marks (out of 15): 10

Term Work Marks (out of 25): 0 Practical  
Marks (out of 50): 0

Enter marks for PCE:

Theory Marks (out of 40): 15

IAT-I & IAT-II Marks (out of 15): 0 Term Work  
Marks (out of 25): 0

Results Summary:

AM-II - Theory: 10, IAT: 0, Term Work: 0

AP-II - Theory: 15, IAT: 0, Term Work: 0

AC-II - Theory: 12, IAT: 0, Term Work: 0

EG - Theory: 35, IAT: 10, Term Work: 0, Practical: 0 PCE  
- Theory: 15, IAT: 0, Term Work: 0

Total Internal KTs: 5

Total External KTs: 5

Result: Failed (Year Drop) ===

Code Execution Successful ===

Enter marks for AM-II:

Theory Marks (out of 80): 90

Invalid input. Please enter a value between 0 and 80. Theory  
Marks (out of 80): -15

Invalid input. Please enter a value between 0 and 80.

=== Code Execution Successful ===