

KRISHNAGAR ACADEMY

Half Yearly Examinations Phase II

Class: X

Subject: Computer Applications

FM 50

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- 1)
- a) What is the difference between local variable and instance variable? [2]
 - b) What is the purpose of using 'default' in a switch statement? [2]
 - c) What is the difference between a static and a non-static method? [2]
 - d) Name two reference data types of java. [2]
 - e) Name the keyword that indicates that the method has nothing to return. [2]
- 2)
- a) Write statement to assign the value of pie (3.142) using 'Math' class. [2]
 - b) Name a keyword to use the classes defined in a package. [2]
 - c) How is the concept of data abstraction implemented in java? [2]
 - d) Write a java expression for: $|\sqrt{2a^4 + 5b^5}|$ [2]
 - e) What is a package? [2]
- 3) Write a menu driven program to get the following output: [15]
- a) $S = \frac{x}{2!} - \frac{x^2}{3!} + \frac{x^3}{4!} - \frac{x^4}{5!} + \frac{x^5}{6!} - \dots \dots \dots nth \text{ term}$
 - b) $Sum = 2 + 3 + 5 + 7 + 11 + 13 + \dots \dots \dots nth \text{ term}$
- 4) Write a program to input a number and check whether it is a happy number or not. If you iterate the process of summing the squares of the decimal digits of a number and if this process terminates in 1, then original number is called a happy number. For example $7 \Rightarrow (7^2) \Rightarrow (4^2 + 9^2) \Rightarrow 97 \Rightarrow (9^2 + 7^2) \Rightarrow 130 \Rightarrow (1^2 + 3^2 + 0^2) \Rightarrow 10 \Rightarrow (1^2 + 0^2) = 1$ [15]