|  |  |  |  |
| --- | --- | --- | --- |
| Image result for adamas university logo | **ADAMAS UNIVERSITY**  **END SEMESTER EXAMINATION**  (Academic Session: 2020 – 21) | | |
| **Name of the Program:** | BCA | **Semester:** | I |
| **Paper Title:** | Introduction to Programming | **Paper Code:** | ECS 31161 |
| **Maximum Marks:** | 50 | **Time Duration:** | 3 Hrs |
| **Total No. of Questions:** | 17 | **Total No of Pages:** | 03 |
| *(Any other information for the student may be mentioned here)* | 1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Group A**  **Answer All the Questions (5 x 1 = 5)** | | | |
| 1 | **Develop** is the equivalent code of the following statement in WHILE LOOP format?  for (a=1; a<=100; a++)  printf ("%d\n", a \* a); | **AP** | **CO2** |
| 2 | **What** is lvalue and rvalue? | **R** | **CO1** |
| 3 | **What** are valid places for the keyword break; appear? | **R** | **CO1** |
| 4 | **Show** the process to create increment and decrement statement in C? | **U** | **CO1** |
| 5 | **Explain** strcat() function? | **U** | **CO4** |
| **Group B**  **Answer All the Questions (5 x 2 = 10)** | | | |
| 6 a) | 1. **What** is data type? 2. **What** are the data types in C language have? | **R** | **CO1** |
| **(OR)** | | | |
| 6 b) | 1. **What** is comma operator? 2. **What** is its purpose? | **R** | **CO1** |
| 7 a) | **Explain** what is the purpose of scanf() function ? **Compare** it with getchar() function. | **U** | **CO1** |
| **(OR)** | | | |
| 7 b) | **Summarize** the difference while and do-while loop. | **U** | **CO2** |
| 8 a) | **What** is Pointer variable? Give example. | **R** | **CO4** |
| **(OR)** | | | |
| 8 b) | **What** is the relationship between array name and pointer? | **R** | **CO4** |
| 9 a) | **Compare** between formal argument and actual argument? | **U** | **CO3** |
| **(OR)** | | | |
| 9 b) | **Define** recursion. | **R** | **CO3** |
| 10 a) | **Develop** the statements that interchange the value of the two variables a and b, without using third variable | **AP** | **CO2** |
| **(OR)** | | | |
| 10 b) | **Develop** the program to check the prime number. | **AP** | **CO2** |
| **Group C**  **Answer All the Questions (7 x 5 = 35)** | | | |
| 11 a) | **What** will be the output of the following codes?   1. int i = 10;   printf(“i=%d”,i);  {  int i = 20;  printf(“i= %d”,i);  i++;  printf(“i= %d”, i);  }  printf(“i = %d”,i)   1. main() {   int i=10,a;  a = i++ / ++i;  printf(“%d … %d”, a, i);  } | **R** | **CO1** |
| **(OR)** | | | |
| 11 b) | 1. **What** will be the value of i and j after execution of following program?   int i,j;  for (i= 0,j=0;i<10,j<20;i++,j++){  printf(“i =%d \t j = %d”,i,j);  }   1. **What** will be the output of the following code?   main()  {  int a = 1, b = 2, c = 3:  printf("%d", a + = (a + = 3, 5, a))  } | **R** | **CO1** |
| 12 a) | **Explain** if, if-else, nested if-else and if-else ladder with examples and syntax | **U** | **CO1** |
| **(OR)** | | | |
| 12 b) | **Develop** Program to print the following pattern:  \*\*\*\*\*  \* \*  \* \*  \* \*  \*\*\*\*\* | **AP** | **CO2** |
| 13 a) | An electricity board charges the following rates for the use of electricity: for the first 200 units 80 paise per unit: for the next 100 units 90 paise per unit: beyond 300 units Rs 1 per unit. All users are charged a minimum of Rs. 100 as meter charge. If the total amount is more than Rs 400, then an additional surcharge of 15% of total amount is charged. **Solve** a program to read the name of the user, number of units consumed and print out the charges. | **AP** | **CO2** |
| **(OR)** | | | |
| 13 b) | Develop a Program to print the following pattern:  \*\*\*\*  \*\*\*  \*\*  \* | **AP** | **CO2** |
| 14 a) | **Plan** and develop a C program to reverse of an integer number NUM and check whether it is PALINDROME or NOT. | **AP** | **CO2** |
| **(OR)** | | | |
| 14 b) | Write a program to **find** reverseof a stringwithout using string function. | **R** | **CO4** |
| 15 a) | Write a program to **find** the sum of two matrices of order 2\*2. | **R** | **CO4** |
| **(OR)** | | | |
| 15 b) | **Build** a program to search an element from a one-dimensional array. | **AP** | **CO4** |
| 16 a) | **Develop** a program to create a structure *book* with the followings - name, author, price and id of book. Print the above information of 5 books. | **AP** | **CO4** |
| **(OR)** | | | |
| 16 b) | **Develop** a program to print the initial of your full name.  e.g.  Input: Abir Kumar Roy  Output: A.K.R | **AP** | **CO4** |
| 17 a) | **What** is a file? Explain how the file open and file close functions handled in C. | **R** | **CO5** |
| **(OR)** | | | |
| 17 b) | **Build** a program to calculate the factorial of a user given number using for loop. | **AP** | **CO2** |