B.E.(with Credits)-Regular-Semester 2012 - Civil Engineering Sem VI CE605 - Computer Application in Civil Engineering

P. Pages : 2 Time : Three Hours				* 3 5 2 0 *	GUG/W/16/5331 Max. Marks : 80	
	Notes : 1. 2. 3. 4. 5.		1. 2. 3. 4. 5.	All questions carry equal marks. Answer all questions. Assume suitable data wherever necessary. Illustrate your answers wherever necessary with the help of neat sketches. Non programmable calculator is permitted.		
1.	a)	Co i) ii)	onvert R Z	the following equations into corresponding C-statements. $=\frac{2v+6.22(c+d)^{3}}{(g+v)^{4}}$ $=\frac{8.8(a+b)2/c-0.5b^{3}}{(a+b).(1/m)}$	4	
	b)	Ev i) ii)	aluat q = (b= S= (a=	the the following expressions and show their hierarchy. $= \frac{a_2' - a + 4_a'}{a} - a + \frac{b_3'}{3};$ =2.5, a=3 assuming q to be float) a * b/4 - 6/2 + 2/3 + 6/c =2, b=4, c=3, assume S to be an integer)	4	
	b)	Poi)ii)	int ou ma { : if (pri } ma {	the errors, if any in the following programm. in() flot a=12.25, b=12.25; a=b) ntf(" n a and b are equal n"); in() int x=10; if (x)=20 printf(%d",x);	4 4	
2.	a) b) c)	W W W	rite th hat do rite th	OR the brief history of C? Explain the levels of languages. To you know about local and global variables. Explain with suitable the equivalent C-expression of the following. $x^{2} = \frac{x}{2}$	6 examples. 5 5	

i) Sum =
$$1 + \frac{x}{2!} + e^{\frac{7}{2}}$$

ii) $x = y\frac{3}{3} + \sin^2\theta + \cos^3\theta$

3. a) Explain the use of break, continue and goto statement in C with suitable example. **6**

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b) Write a program to print the sum of following series. 7 sum = $1 + x + \frac{x^3}{3!} + \frac{x^5}{5!} + \frac{x^7}{7!} + \frac{x^9}{9!}$ c) Write the syntax of switch statements in c. When and in which condition it is used 3 compared to if-else. OR 4. Write a programme to accept the number, if the input number is greater than zero, then 4 a) display the result as +ve, otherwise display the result as negative using conditional operator. b) 5 Write a C-program to print the following $nc_r = \frac{n!}{r!*(n-r)!}$. If a five digit number is input th^r the keyboard then write a program to calculate the sum c) 7 of its digit for five different sets. 5. a) A class test is to be conducted for 100 students class. Write a programme to receive and 8 print marks of all students and then print Highest, Lowest marks and average marks scored in a class. b) Write a program to print the input matrix and its transpose matrix. 8 OR Write a C-program for the function f(x) defined below: 7 6. a) $f(x) = 2x^2 + 3x + 4$ for x < 2for x = 2f(x) = 0, for x > 2 $f(x) = -2x^2 + 3x - 4$, Describe the following with syntax. 9 b) i) Pointer ii) Structure iii) File handling in C. Evaluate $\int_{0}^{6} \frac{dx}{1+x^2}$ by using Trapezoidal rule. Write then computer programme for it. 7. a) 8 Write a 'C' program for Simpson's 1/3 rule to evaluate $\int_{-1}^{7} x^2 \log x \, dx$ 8 b) OR Write a C program to solve simultaneous equation using Gauss elimination method 8. a) 10 Write various types of solution errors. b) 6 Write a C-program using Newton Raphson method to find root of equation. 10 9. a) $x^{3} - 4.75x^{2} - 12.75x + 31.5 = 0$ Solve the following equation using Euler's method: dy/dx=y-x/y+xb) 6 Given that y(0)=1, find y at x=1.0 with step of 0.25. OR Explain Milne's method and write a computer program in C for the same. 10. 10 a) Solve the following equation by second order Runge-Kutta method. $dy/dx=2x^2-y^2$ b) 6 given that y(0)=0, find y at x=0.3 with step size of 0.1.
