S.V.NATIONAL INSTITUTE OF TECHNOLOGY
Department of Computer Science and Engineering
B.Tech. III - Semester - VI - Mid Semester Examination
12th March – 2022 Principles of Programming Languages(CS302)

[Time: 45 Min.] **Part-2** [Total Marks: 18]

1.	Consider the following class declaration:
	class Cow {
	char name[20];
	char * hobby;
	double weight;
	public:
	Cow();
	Cow(const char * nm, const char * ho, double wt);
	Cow(const Cow c&);
	~Cow();
	Cow & operator=(const Cow & c);
	void ShowCow() const; // display all cow data
	}; Provide the implementation for this class and write a C++ program that uses all the member functions.
		02

2.	(a) Explain the behavior of the condition in the following if: ***const char *cp = "Hello World";*** ***if (cp && *cp)*** (b) Given the following definitions: ***char cval; int ival; unsigned int ui; float fval; double dval;*** identify the implicit type conversions (if any) taking place: ***(a) cval = 'a' + 3;*** ***(b) fval = ui - ival * 1.0;*** ***(c) dval = ui * fval;*** ***(d) cval = ival + fval + dval;***	02
3.	Design and implement a C++ program that defines a base class A, which has a subclass B, which itself has a subclass C. The A class must implement a method, which is overridden in both B and C. You must also write a test class that instantiates A, B, and C and includes three calls to the method. One of the calls must be statically bound to A's method. One call must be dynamically bound to B's method, and one must be dynamically bound to C's method. All of the method calls must be through a pointer to class A.	03
4.	Consider the following skeletal C program: ***void fun1(void); /* prototype */*** ***void fun2(void); /* prototype */*** ***void fun3(void); /* prototype */*** ***void main() {*** ***int a, b, c;*** ***. . . }*** ***void fun1(void) {*** ***int b, c, d;*** ***. . . }*** ***void fun2(void) {*** ***int c, d, e;*** ***. . . }*** ***void fun3(void) {*** ***int d, e, f;*** ***. . . }***	03