POSTER PRESENTATION QUESTIONS

UNIT:-1

1. Newton’s law of energy.
2. Orthogonal Trapicloies.
3. Law of growth and decay.

Unit:-2

1. Variations of parameters.
2. Cauchy-Euler equations.
3. Non-homogeneous D.E of type axV(x).

Unit:-3

1. Convolution theorem.
2. Solution of D.E using L.T.
3. L.T of periodic functions.
4. L.T of integrals of functions.

Unit:-4

1. Directional Derivatives.
2. Solenoidal Vectors.
3. Inotational Vectors.

Unit:-5

1. Green’s theorem.
2. Stoke’s theorem.
3. Gauss-divergence theorem.
4. Work done by force.

Power point presentations

Unit:-1

1. Linear differential equations.
2. Bernoulle’s equation.
3. Reduction of non-exact to eract.

Unit:-2

1. Legendre’s equation.
2. Electric cricuits.
3. Variation of parameters.

Unit:-3

1. Applications of L.T.
2. L.T derivatives.
3. Shifting thermos.

Unit:-4

1. Gradient with applications.
2. Divergence and curl with applications.
3. Vector identities.
4. Directional derivatives.

Unit:-5

1. Line Integrals.
2. Surface Integrals
3. Volume Integrals.
4. Green’s theorem.

Case study

1. A ball falls under gravity in a resisting medium whose resistance varies with velocity. Find the relation b/w distance and velocity if initially the ball starts from rest?
2. Two friends A and B order coffee and receive cups of equal temperature at the same time A adds a small amount of cool cream immediately, but does not drink his coffee until 10 minutes later B waits for 10 minutes and adds the same amount of cool cream and begins to dink. Find who drinks the hotter coffee.
3. A tank initially contain 50 gallons of fresh water. Brine, containing 2 powder per gallons of salt flows into the tank at the rate of 2 gallons per minute and the mixture kept uniform by stirrup, seens out at the same rate. How long will it take for the quantity of salt in the tank to increase from 40 to 80 pounds?
4. In a college hostel accomodating 1000 students, one of the hostellers came in carrying corona virus, and at which the virus spreads is assured to be proportional to the product of the number of infected students and remaining students. There are 50 infected students after 4 days.

Based on the above information answer the following questions.

1. If n(t) denote the number of students infected by corona virus at any time t, there maximum value of n(t) is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. dn/dt is proportional to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The value of N(4) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. The general solution of differential equation formed in given solution is \_\_\_\_\_\_\_\_
5. It is known that, if the interest is compounded continuously, the principal changes at the rate of bank interest per annum and the principal. Let P denotes the principal at any time t and rate of interest be r% per annum.

Based on the above information answer the following questions.

1. Find the values o g dp/dt.
2. If P0 is the initial principal, then find the solutions of differential equation formed in the given situation.
3. If the interest at 5% per annum, in how many years will 100RS double itself?
4. How much will 1000RS be worth at 5% interest after 10 years?
5. The charge q(t) on the capacitor is given by the differential equation

10 D2q/dt2+dq/dt+1000q=17sin(2t)

At time zero, the current is zero and the charge on the capacitor is 1/2000 coulombs. Find the charge on the capacitor for t>0.