**[B19EC2101]**

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)**

**II/IV B.Tech I Semester (R19) Regular Examinations**

**ELECTRONIC DEVICES AND CIRCUITS**

**Common to ECE & EEE**

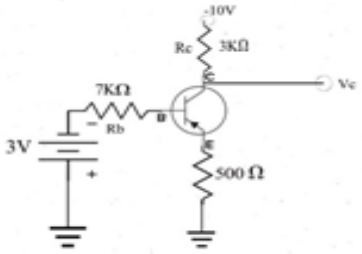
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**

All questions carry equal marks.

*****

| | | | CO | KL | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Discuss in detail the various current components in a p-n junction diode. | **CO1** | **K2** | **7** |
| | **b).** | A Silicon diode operates at a forward voltage of 0.4 V. Calculate the factor by which the current will be multiplied when the temperature is increased from 25 degree centigrade to 150 degree centigrade. | **CO1** | **K3** | **8** |
| | | OR | | | |
| **2.** | **a).** | With a neat diagram, explain the operation of a full wave rectifier and obtain expressions for ripple factor and efficiency. | **CO1** | **K4** | **7** |
| | **b).** | Distinguish between Zener breakdown and Avalanche breakdown. | **CO1** | **K5** | **8** |
| | | | | | |
| | | **UNIT-II** | | | |
| **3.** | **a).** | Explain input and output characteristics of the transistor in CE configurationwith a neat sketch. | **CO1** | **K2** | **7** |
| | **b).** | Compare CE, CC and CB configurations of a transistor. | **CO1** | **K5** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | Explain the early effect and its consequences in the Common base transistor. | **CO1** | **K2** | **7** |
| | **b).** |  <br>For the circuit shown, $\beta_{dc}$ = 100 and $V_{BE}$ = 0.8V.<br>(i). Find if the transistor is in cut off, saturation or active region.<br>(ii). Find the voltage ($V_c$). (iii). Find the minimum value of $R_B$ for which the transistor operates in an active region. | **CO1** | **K3** | **8** |
| | | | | | |
| | | **UNIT-III** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **5.** | **a).** | Explain how self-bias circuit improves stability of operating point and obtain an expression for the stability factor 'S' for the self-bias circuit | **CO2** | **K4** | **7** |
| | **b).** | Explain how diodes can be used to compensate against variations in $V_{BE}$ and $I_{CO}$ due to change in temperature. | **CO2** | **K2** | **8** |
| | | OR | | | |
| **6.** | **a).** | A transistor with β= 100 is to be used in Common Emitter Configuration with collector to base bias. $R_E$ = 1 K**Ω**, $V_{CC}$ = 10V. Assume $V_{BE}$ = 0.7V. Choose $R_B$ so that the quiescent collector to emitter voltage is 4V. Find Stability Factor S. | **CO2** | **K3** | **7** |
| | **b).** | Explain thermal runaway and thermal stability in transistors. | **CO2** | **K2** | **8** |
| | | | | | |
| | | UNIT-IV | | | |
| **7.** | **a).** | Compare JFET and BJT. | **CO1** | **K5** | **7** |
| | **b).** | Draw the basic structure of N- channel JFET and explain the operation with the help of characteristic curves. | **CO1** | **K2** | **8** |
| | | OR | | | |
| **8.** | **a).** | Explain the construction and operation of Enhancement MOSFET with drain and transfer characteristics. | **CO1** | **K2** | **7** |
| | **b).** | A JFET is to be connected in a circuit with a drain load resistor of 4.7 k**Ω**, and a supply voltage of $V_{DD}$ = 30V. $V_D$ is to be approximately 20V, and is to remain constant within ± 1 V. Design a suitable self-bias circuit. | **CO2** | **K3** | **8** |
| | | | | | |
| | | UNIT-V | | | |
| **9.** | **a).** | Derive expressions for current gain, Voltage gain, Input impedance and Output impedance of a generalized transistor amplifier using h-parameters. | **CO3** | **K4** | **7** |
| | **b).** | Explain the frequency response of the CE amplifier with a neat sketch. | **CO3** | **K2** | **8** |
| | | OR | | | |
| **10.** | **a).** | Discuss the effect of bypass and coupling capacitors in CE amplifiers. | **CO3** | **K2** | **7** |
| | **b).** | Draw and explain a hybrid **π**- model of a transistor used at high frequencies. | **CO3** | **K2** | **8** |

**CO-COURSE OUTCOME** **KL-KNOWLEDGE LEVEL** **M-MARKS**

**[B19 BS 2102]**

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)**

**II B. Tech I Semester (R19)**

**MATHEMATICS – IV**

**COMMON TO CE &EEE**

**MODEL QUESTION PAPER**

**TIME: 3 Hrs.** **Max. Marks: 75 M**

Answer **ALL Questions.** All questions carry equal marks.

| Q. No. | | Question | Course Outcome | BTL | Marks |
|---|---|---|---|---|---|
| 1 | A | Determine $p$ such that the function $f(z) = \frac{1}{2} log_e(x^2 + y^2) + i\, tan^{-1}(\frac{px}{y})$ will be an analytic function. | CO -1 | K3 | 7 |
| | B | In an electro static field, if the potential function is $\emptyset = 3x^2y - y^3$, then determine the flux function and the complex potential function. | CO -1 | K3 | 8 |
| **OR** | | | | | |
| 2 | A | If $f(z) = u + iv$ is an analytic function of $z = x + iy$, establish that $\left[\frac{\partial}{\partial x}\lvert f(z)\rvert\right]^2 + \left[\frac{\partial}{\partial y}\lvert f(z)\rvert\right]^2 = \lvert f'(z)\rvert^2$. | CO -1 | K3 | 7 |
| | B | Determine the bilinear transformation which maps the points z= 1, i,-1 into the points w = 0, 1, ∞ respectively. Determine also the fixed points of the transformation. | CO -1 | K3 | 8 |
| 3 | A | Evaluate $\oint_C \frac{z^3-2z+1}{(z-i)^2} dz$ where C is \|z\|=2, using Cauchy integral formula. | CO -2 | K3 | 7 |
| | B | Develop the function f(z)= $\frac{4z+3}{z(z-3)(z-2)}$ as Laurent series (i) (i) in \|z\|=1 and (ii) in the annular region 1 <\|z\|<3. | CO -2 | K3 | 8 |
| **OR** | | | | | |
| 4 | A | Determine the residues of $f(z) = \frac{z^3}{(z-1)^4(z-2)(z-3)}$ at its poles and hence evaluate $\oint_C f(z)dz$ , where C is the circle \|z\| = 2.5 | CO -2 | K3 | 7 |
| | B | Apply the calculus of Residues to evaluate $\int_0^{2\pi} \frac{d\theta}{5-3\cos\theta}$. | CO -2 | K3 | 8 |
| 5 | A | Determine the difference equation generated by $y_n = (A + Bn)3^n$. | CO -3 | K3 | 7 |
| | B | Solve the difference equation $y_{n+2} + y_{n+1} - 56y_n = 2^n(n^2 - 3)$. | CO -3 | K3 | 8 |
| **OR** | | | | | |
| 6 | A | Given $Z\{u_n\} = \frac{z}{z-1} + \frac{z}{z^2+1}$ determine the Z-transform of $u_{n+2}$. | CO -4 | K3 | 7 |
| | B | Utilize Z-transforms to solve $u_{n+2} - 2u_{n+1} + u_n = 3n + 5$. | CO -4 | K3 | 8 |

<table>
<tr><td rowspan="2">7</td><td>A</td><td>If X is the random variable of a Poisson distribution such that the probability for X = 2 is two-thirds of the probability for X = 1. Determine the probability for X = 0 and the probability for X = 3. What is the probability for X >3.</td><td>CO -5</td><td>K3</td><td>7</td></tr>
<tr><td>B</td><td>The average and S.D. of the marks obtained by 500 students in a examination are respectively 40% and 10%. Assuming the normality of the distribution, determine approximately<br>(i)how many will pass if 50% is fixed as minimum,<br>(ii)how many have scored marks above 60%?</td><td>CO -5</td><td>K3</td><td>8</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">8</td><td>A</td><td>Derive moment generating function of Poisson distribution.</td><td>CO -5</td><td>K3</td><td>7</td></tr>
<tr><td>B</td><td>In a Normal distribution, 31% of the items are under 45 and 8% are over 64. Determine the mean and standard deviation of the distribution.</td><td>CO -5</td><td>K3</td><td>8</td></tr>
<tr><td rowspan="2">9</td><td>A</td><td>A sample of 100 electric bulbs produced by manufacturer A showed a mean life time of 1190 hours with a standard deviation of 90 hours. A sample of 75 bulbs produced by manufacturer B showed a mean life of 1230 hours with a standard deviation of 120 hours. Determine whether there is significant difference between the mean life time of the two brands at a level of significance of 0.05</td><td>CO -6</td><td>K3</td><td>7</td></tr>
<tr><td>B</td><td>A sample of 1000 days is taken from meteorological records of a certain district and 120 of them are found to be foggy. Determine the probable limits for the percentage of foggy days in the district.</td><td>CO -6</td><td>K3</td><td>8</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">10</td><td>A</td><td>A machine is supposed to produce washers of mean thickness 0.12cm. But the mean thickenss of a random sample of 10 washers produced by the machine was found to be 0.128cm with a standard deviation of 0.008cm. Determine whether the machine is working properly at 5% level of significance.</td><td>CO -6</td><td>K3</td><td>7</td></tr>
<tr><td>B</td><td>The number of aircraft accidents that occurred during the various days of the week is given below:
<table>
<tr><td>Day:</td><td>Sun</td><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td></tr>
<tr><td>No. of accidents</td><td>14</td><td>16</td><td>8</td><td>12</td><td>11</td><td>9</td><td>14</td></tr>
</table>
Determine whether the accidents are uniformly distributed over the week.</td><td>CO-6</td><td>K3</td><td>8</td></tr>
</table>

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2101]**
**II B. Tech I Semester (R19) Regular Examinations**
**ELECTRICAL MEASUREMENTS AND INSTRUMENTATION**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Explain the principle of working of a PMMC instrument with neat diagram | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Explain different types of damping torques in measuring instruments. | **CO1** | **K3/ PO1** | **8** |
| | | | | | |
| **2.** | **a).** | Explain the operation of Moving Iron instrument with torque expression. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Explain how you extend the range of ammeter and voltmeter using shunts and series resistance. | **CO1** | **K3/ PO1** | **8** |
| | | **Unit-II** | | | |
| **3.** | **a).** | Explain with a neat circuit of single-phase Dynamometer type Wattmeter and derive the equation for deflection torque. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Explain the operation of Power Factor meter with neat diagram. | **CO1** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | Explain measurement of single phase energy by induction type energy meter with suitable diagram. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Explain with the help of neat diagram how would you extend range of a wattmeter using C.T. and P.T. | **CO2** | **K3/ PO1** | **8** |
| | | **Unit-III** | | | |
| **5.** | **a).** | Explain the working principle of Kelvin's double bridge method for measurement of low resistance. | **CO3** | **K4/ PO2** | **7** |
| | **b).** | Explain the measurement of inductance by Maxwell's inductance bridge with necessary phasor diagram. | **CO3** | **K4/ PO2** | **8** |
| | | **OR** | | | |
| **6.** | **a).** | Explain measurement of unknown resistance and Derive the balance conditions with Wheatstone's bridge and State its limitations | **CO3** | **K4/ PO2** | **7** |
| | **b).** | Explain how capacitance is measured with Schering Bridge. | **CO3** | **K4/ PO2** | **8** |
| | | **Unit-IV** | | | |
| **7.** | **a).** | Explain the working principle of Kelvin's double bridge method for measurement of low resistance. | **CO2** | **K3/ PO1** | **7** |
| | **b).** | Explain the measurement of inductance by Maxwell's inductance bridge with necessary phasor diagram. | **CO2** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **8.** | **a).** | Explain measurement of unknown resistance and Derive the balance conditions with Wheatstone's bridge and State its limitations | **CO2** | **K3/ PO1** | **7** |

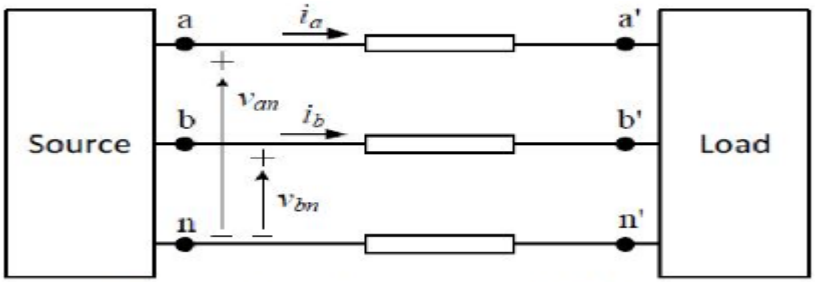
| | | | | | |
|---|---|---|---|---|---|
| | **b).** | Explain how capacitance is measured with Schering Bridge. | **CO2** | **K3/ PO1** | **8** |
| **UNIT-V** | | | | | |
| **9.** | **a).** | The Lissajous pattern on a CRO is stationary and has five horizontal and two vertical tangencies. The frequency of horizontal input is 600 Hz. Determine the frequency of vertical input and draw the pattern | **CO4** | **K3/ PO1** | **7** |
| | **b).** | Explain the operating principle of a Dual Slope type DVM. | **CO5** | **K3/ PO1** | **8** |
| **OR** | | | | | |
| **10.** | **a).** | Explain the operating principle of a Flash type ADC. | **CO5** | **K3/ PO1** | **7** |
| | **b).** | Explain the operating principle of a R2R type DAC. | **CO5** | **K3/ PO1** | **8** |

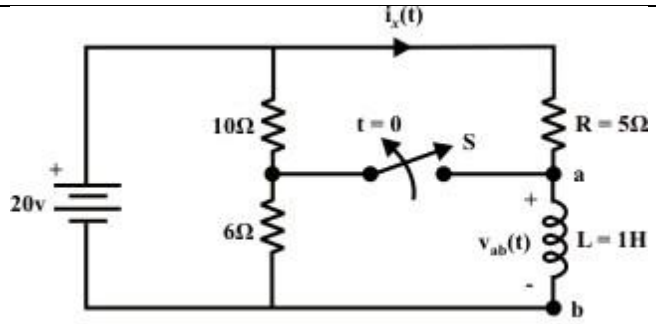
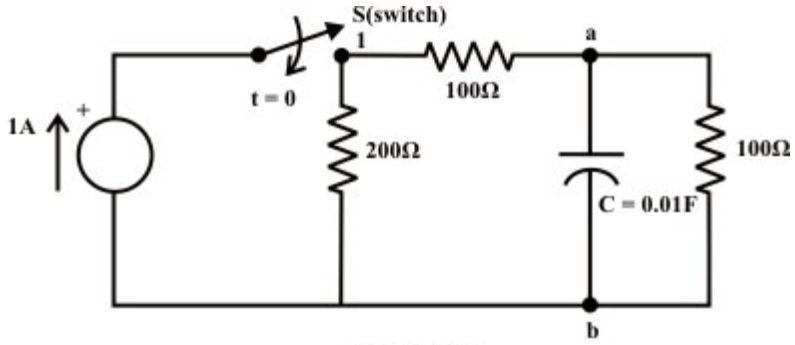
**********

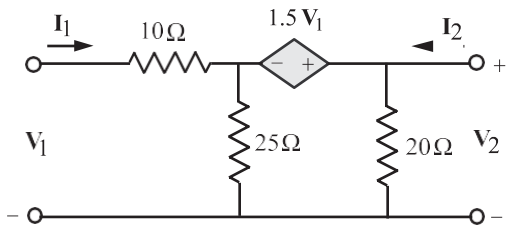
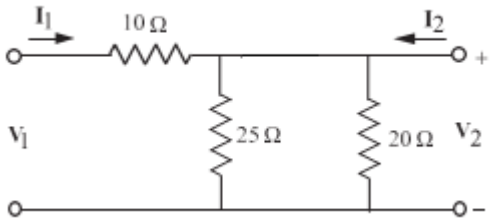
**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2102]**
**II B. Tech I Semester (R19) Regular Examinations**
**NETWORK ANALYSIS AND SYNTHESIS**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Three loads, each of resistance 30, are connected in star to a 415 V, 3-phase supply. Determine (a) the system phase voltage, (b) the phase current and (c) the line current. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | A source is supplying a load through a 2-phase, 3-wire transmission system as shown in figure below. The instantaneous voltage and current in phase-a are Van=220sin (100πt) V and ia=10sin (100πt) A, respectively. Similarly for phase-b, the instantaneous voltage and current are Vbn=220cos (100πt) V and ib=10cos (100πt) A, respectively.<br>  <br><br>Find the total instantaneous power flowing from the source to the load. | **CO1** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **2.** | **a).** | (i)What are the Advantages of 3 phase system?<br>(ii)Define balanced load?<br>(iii) Define unbalanced load? | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Comparisons of star and delta connections? | **CO1** | **K3/ PO1** | **8** |
| | | **Unit-II** | | | |
| **3.** | **a).** | Derive an expression for voltage in a series "RC" circuit when subjected to a step input. | **CO2** | **K3/ PO1** | **7** |
| | **b).** | For the circuit shown in Fig. Shown below, the switch 'S' has been closed for a long time and then opens at *t=0.* | **CO2** | **K4/ PO2** | **8** |

| | | | | | |
|---|---|---|---|---|---|
| | |  <br>Fig. 10.12 | | | |
| **OR** | | | | | |
| **4.** | **a).** | Derive the voltage response expression across capacitor for a source free RC circuit. | **CO2** | **K3/ PO1** | **7** |
| | **b).** | The circuit shown in fig. shown below is switched on at time t=0. How long it takes for the capacitor to attain 70% of its final voltage? Assume the capacitor is initially not charged. Find also the time constant (τ) of the circuit after the switch is closed.<br>  <br>Fig. 10.24(a) | **CO2** | **K4/ PO2** | **8** |
| **Unit-III** | | | | | |
| **5.** | **a).** | Obtain the response of an R-L-C series circuit for impulse excitation. Use Laplace transform method. | **CO3** | **K3/ PO1** | **7** |
| | **b).** | Determine the Laplace transform of the function.<br>$f(t) = \begin{cases} 1, & 0 \le t \le \frac{T}{2} \\ 0, & \frac{T}{2} \le t \le T \end{cases} \quad f(t+T) = f(t), t \ge 0$ | **CO3** | **K3/ PO1** | **8** |
| **OR** | | | | | |
| **6.** | **a).** | State and prove initial and final value theorem. | **CO3** | **K3/ PO1** | **7** |
| | **b).** | Find (a) $L[e^{2t} t^2]$ (b) $L[e^{3t} \cos 2t]$. | **CO3** | **K3/ PO1** | **8** |
| **Unit-IV** | | | | | |
| **7.** | **a).** | Obtain h parameters in terms of z parameters for two port networks. | **CO4** | **K3/ PO1** | **7** |
| | **b).** | Find **T** parameters (ABCD) for the two-port network shown in Fig. | **CO4** | **K3/ PO1** | **8** |

| | | | | | |
|---|---|---|---|---|---|
| | |  | | | |
| | | **OR** | | | |
| **8.** | **a).** | Enlist the restrictions of pole-zero on driving point impedance function. | **CO4** | **K3/ PO1** | **7** |
| | **b).** | Define a transfer function? Find the transfer function V2/V1 of the given Fig below.  | **CO4** | **K3/ PO1** | **8** |
| | | **UNIT-V** | | | |
| **9.** | **a).** | Test whether the polynomial is Hurwitz (or) Not $F(s) = s^4+s^3+5s^2+3s+4$ | **CO5** | **K3/ PO1** | **7** |
| | **b).** | Check the positive realness of the function: $F(s) = (s^2 +10s+4)/(s+2)$. | **CO5** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **10.** | **a).** | An admittance function is given as $Y(s) = (4s^2 + 6s) /(s+1)$ realizes the network. | **CO5** | **K4/ PO2** | **7** |
| | **b).** | Enlist the properties of driving point immittance of LC network. | **CO5** | **K3/ PO1** | **8** |

******

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2103]**
**II B. Tech I Semester (R19) Regular Examinations**
**ELECTRO MAGNETIC FIELD THEORY**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Derive an expression for Electric field intensity due to infinite line charge distribution? | **CO1** | **K3/ PO1** | **7** |
| | **b).** | A 2 μC point charge is located at A (4,3,5) in free space. Find Eρ, Eφ and Ez at P (8,12,2) | **CO1** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **2.** | **a).** | Derive an expression for Electric field intensity due to infinite sheet of charge distribution by using Gauss's law? | **CO2** | **K3/ PO1** | **7** |
| | **b).** | Uniform line charges of 120nC/m lie along the entire extent of three coordinate axes. Assuming free space conditions. Find Electric field Intensity E at P (-3,2,-1). | **CO1** | **K3/ PO1** | **8** |
| | | **Unit-II** | | | |
| **3.** | **a).** | Define an electric dipole and derive an expression for E due to electric dipole. | **CO2** | **K3/ PO1** | **7** |
| | **b).** | Find the stored energy in a system of 4 identical charges of Q = 4nC at the corners of a square of a 1m on a side? | **CO3** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | derive the electrostatic boundary conditions between a conductor and free space | **CO3** | **K3/ PO1** | **7** |
| | **b).** | State and prove the Uniqueness theorem. | **CO2** | **K3/ PO1** | **8** |
| | | **Unit-III** | | | |
| **5.** | **a).** | State Biot-savart's Law and Derive an expression for magnetic field intensity due to an infinite long straight current carrying conductor. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | A 'Z' directed current distribution is given by, $\vec{J} = (r^2 + ur)\ A/m^2$ for r ≤a Find$\underline{B}$ at any point r ≥ a using Ampere's circuit law | **CO2** | **K3/ PO1** | **7** |
| | | **OR** | | | |
| **6.** | | Derive an expression for a curl and applying Ampere's Circuital law to an incremental surface.. | **CO2** | **K3/ PO1** | **15** |
| | | | | | |
| | | **Unit-IV** | | | |
| **7.** | **a).** | Derive magneto-static boundary conditions. | **CO3** | **K3/ PO1** | **7** |
| | **b).** | A charge particle with uniform velocity $4a_x$m/s in a region where $\vec{E} = 2\overrightarrow{a_y}$ V/m $\vec{B} = B_0\overrightarrow{a_z}$wb/$m^2$.Determine $B_0$ such that velocity of particle remains constant. Use Lorentz force equation | **CO3** | **K3/ PO1** | **8** |

| | | | | | |
|---|---|---|---|---|---|
| | | **OR** | | | |
| **8.** | **a).** | The Vector magnetic potential, A due to direct current in a conductor in free space is given by $A = (x^2 + y^2)a_z \mu\omega b/m^2$.Determine the magnetic field produced by the current element at (1,2,3) . | **CO2** | **K3/ PO1** | **7** |
| | **b).** | Discriminate Inductance and Mutual Inductance, Determine inductance of a solenoid | **CO3** | **K3/ PO1** | **8** |
| | | **UNIT-V** | | | |
| **9.** | **a).** | Write down the Maxwell's equations for both static and time varying fields in integral and point form. | **CO4** | **K4/ PO2** | **7** |
| | **b).** | Derive an expression for the modified Ampere's circuital law. | **CO4** | **K4/ PO2** | **8** |
| | | **OR** | | | |
| **10.** | **a).** | Compute power flow of electromagnetism's using Poynting's theorem. . | **CO5** | **K4/ PO2** | **7** |
| | **b).** | A certain material has $\sigma = 0,\ \mu_r = 0$. If $E = 800\ sin\ sin(10^6 t - 0.01z)a_y$ V/m, make use of Maxwell equations to find $\in_r$ | **CO5** | **K4/ PO2** | **8** |

**********

**[B19CS2108]**

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)**

**II B. Tech I Semester (R19) Regular Examinations**

**DATA STRUCTURES**

COMMON TO ECE & EEE

**MODEL QUESTION PAPER**

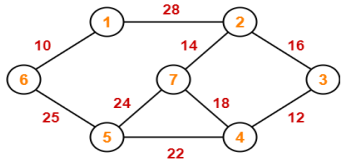
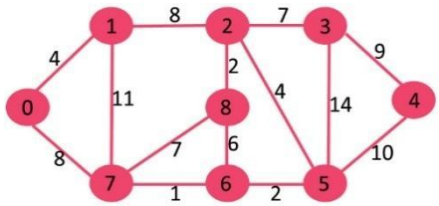
**TIME: 3Hrs.** **Max. Marks: 75M**

Answer **ONE Question** from **EACH UNIT.**

All questions carry equal marks.

*****

| | | **UNIT-I** | | **CO-PO** | **K** |
|---|---|---|---|---|---|
| **1.** | **(a)** | **Applying** stack operations Write an algorithm for postfix evaluation and **Applying** Postfix Evaluation algorithm Evaluate the following postfix expression.<br>2 3 8 5 1 + - $ * 9 6 - * | **8M** | **CO1-PO1** | **K3** |
| | **(b)** | **Construct** a non-recursive algorithm for binary search.<br>Write Non-Recursive algorithms for finding the $n^{th}$ Fibonacci number. | **7M** | **CO1-PO1** | **K3** |
| | | **(OR)** | | | |
| **2.** | **(a).** | **Identify** C routines for primitive operations on stack | **8M** | **CO1-PO1** | **K3** |
| | **(b).** | **Applying** stack operations Write an algorithm for infix to postfix.<br>Apply algorithm Convert the following infix expression to postfix expression.A + ( B * C - ( D / E $ F ) * G ) * H | **7M** | **CO1-PO1** | **K3** |
| | | **UNIT-II** | | | |
| **3.** | **(a).** | **Apply** Linked list to perform stack operations. | **8M** | **CO2-PO1** | **K3** |
| | **(b).** | **Apply** Double Linked list to perform insertion operation. | **7M** | **CO2-PO1** | **K3** |
| | | **(OR)** | | | |
| **4.** | | **Build**an algorithm to find transpose of the given sparse matrix and also implement it by using a c program. | **15M** | **CO2-PO1** | **K3** |
| | | **UNIT-III** | | | |
| **5.** | | Explain Binary tree traversal techniques and **Construct** a Binary Tree from **inorder 4,8,2,5,1,6,3,7** and **post order 8,4,5,2,6,7,3,1.** | **15M** | **CO3-PO1** | **K3** |
| | | **(OR)** | | | |
| **6.** | **(a).** | **Construct** a Threaded binary tree by taking Binary Tree example | **8M** | **CO3-PO1** | **K3** |
| | **(b).** | **Construct** Min Heap an Max Heap for given Input 35 33 42 10 14 19 | **7M** | **CO-PO1** | **K3** |

| | | | | | |
|---|---|---|---|---|---|
| | | 27 44 26 31 | | | |
| | | **UNIT -IV** | | | |
| **7.** | **(a).** | Explain warshall's algorithm and **identify** the transitive closure of a graph with an example. | **8M** | **CO3-PO1** | **K3** |
| | **(b).** | **Apply** BFS traversal of a graph with an example | **7M** | **CO3-PO1** | **K3** |
| | | **(OR)** | | | |
| **8.** | **(a)** | **Construct** Minimum Spanning Tree by Kruskal algorithm   | **8M** | **CO3-PO1** | **K3** |
| | **(b)** | **Construct** Minimum Spanning Tree by Prims Algoritm   | **7M** | **CO3-PO1** | **K3** |
| | | **UNIT-V** | | | |
| **9.** | | **Analyse**and sort the given input elements using quick sort technique 52, 37, 63, 14, 17, 8, 6, 25 | **15M** | **CO4-PO2** | **K4** |
| | | **(OR)** | | | |
| **10.** | | **Analyse**with binary search technique to identify the element 65 in the give list of elements:<br><br>10,20,40,65,75,87,99, | **15M** | **CO4-PO2** | **K4** |

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2201]**
**II B. Tech II Semester (R19) Regular Examinations**
**ELECTRICAL MACHINES-I**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Derive the expression for torque in singly excited magnetic system | **CO1** | **K4/ PO2** | **7** |
| | **b).** | Explain the energy flow in electromechanical systems with energy flow diagrams. | **CO1** | **K4/ PO2** | **8** |
| | | **OR** | | | |
| **2.** | **a).** | Derive the expression for torque in doubly excited magnetic system | **CO1** | **K4/ PO2** | **7** |
| | **b).** | Explain the construction and principle of DC machine with neat sketch. | **CO1** | **K4/ PO2** | **8** |
| | | **Unit-II** | | | |
| **3.** | **a).** | Explain lap and wave windings of DC machines. | **CO1** | **K4/ PO2** | **7** |
| | **b).** | A 6 pole machine has an armature with 90 slots and 8 conductors per slot and runs at 1000 rpm, the flux per pole is 0.05wb. Determine the induced emf if winding is<br>i) Lap connected ii) Wave connected | **CO1** | **K4/ PO2** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | Explain the characteristics of dc series and shunt motor? | **CO3** | **K4/ PO4** | **7** |
| | **b).** | A 500V dc shunt motor takes 8 amperes on no-load the armature and field resistances are 0.2 and 250 ohms respectively. Find the efficiency of the machine when running as a motor taking a current of 90 amperes from the supply. | **CO2** | **K4/ PO2** | **8** |
| | | **Unit-III** | | | |
| **5.** | **a).** | Briefly describe the methods of speed control of DC shunt motor? | **CO4** | **K4/ PO4** | **7** |
| | **b).** | Explain field's test on DC series machine. | **CO5** | **K4/ PO2 , PO4** | **8** |
| | | **OR** | | | |
| **6.** | **a).** | write the procedural steps to calculate the losses an efficiency of dc machine using swinburn's test. | **CO5** | **K4/ PO2 , PO4** | **7** |

| | | | | | |
|---|---|---|---|---|---|
| | **b).** | In Hopkinson's test on two identical machines the following readings were obtained.<br>Line current: 460V, motor armature current: 300A, Field currents are 5A and 4.4A for motor and generator respectively. Calculate the efficiency of each machine. | **CO5** | **K4/ PO2 , PO4** | **8** |
| **Unit-IV** | | | | | |
| **7.** | **a).** | Derive the approximate expression for regulation of a single phase transformer. Obtain the condition for zero voltage regulation. | **CO5** | **K4/ PO2 , PO4** | **7** |
| | **b).** | A 20 KVA 2500/250 v, 50 HZ, single phase transformer has following results:<br>O.C Test (L.V side): 250 v, 1.4 amp, 105 watts<br>S.C Test (H.V side): 104 v, 8 amp, 320 watts<br>Calculate the efficiency at full load and 0.8 pf lagging? | **CO5** | **K4/ PO2 , PO4** | **8** |
| **OR** | | | | | |
| **8.** | **a).** | Derive an expression for the e.m.f induced in a transformer winding. Show that e.m.f per turn in primary is equal to e.m.f per turn in secondary. | **CO2** | **K4/ PO2** | **7** |
| | **b).** | Discuss the advantages and disadvantages of an auto transformer as compared to a two-winding transformer. | **CO2** | **K4/ PO2** | **8** |
| **UNIT-V** | | | | | |
| **9.** | **a).** | Explain the conditions for parallel operation of single-phase transformer. | **CO2** | **K4/ PO2** | **7** |
| | **b).** | Mention different three phase transformer connections in detail. | **CO4** | **K4/ PO4** | **8** |
| **OR** | | | | | |
| **10.** | **a).** | Explain the Scott-connection in three phase transformer. | **CO4** | **K4/ PO4** | **7** |
| | **b).** | Two transformers A and B of different ratings but equal voltage ratios share a load of 500KVA at 0.8 p.f. Lagging at 400V by operating in parallel. Transformer A has a rating of 500KVA, resistance drop of 1.5% and reactance drop of 5%. Transformer B has a rating of 1000KVA, resistance drop of 1% and reactance drop of 4%. Calculate load shared by each transformer and the power factor at which it is working. | **CO2** | **K4/ PO2** | **8** |

**********

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2202]**
**II B. Tech II Semester (R19) Regular Examinations**
**DIGITAL ELECTRONICS AND LOGIC DESIGN**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Convert $(1096)_{10}$ in to Binary, Octal, Hexadecimal, BCD and Excess-3. | **CO1** | **K3/ PO1** | **7** |
| | **b).** | How do you convert a gray number to binary? Calculate a 4-bit gray code directly using the mirror image property? | **CO1** | **K3/ PO1** | **8** |
| | | **OR** | | | |
| **2.** | **a).** | Compute the expression reduction for the following functions by using basic Boolean laws<br>i). $xz + xyz + xz = Y$<br>ii). AB C + (B +C ) ($B$ +D ) +( A + C + D ) = Y | **CO1** | **K3/ PO1** | **7** |
| | **b).** | Explain how 1's complement and 2's complement of a binary number is obtained? Illustrate by an example. | **CO1** | **K3/ PO1** | **8** |
| | | **Unit-II** | | | |
| **3.** | **a).** | Solve the following functions in canonical Sop and Pos forms<br>1. f (A, B, C, D) = A′B + BC + CD′ + ACD<br>f (A, B, C, D) = (A + B′ + C) (A + D)(B′ + C′)(A + B + C) | **CO2** | **K4/ PO2** | **7** |
| | **b).** | Simplify the following function using K- map and implement the same using NAND gates.<br>Y (A, B, C) = ∑ (0, 2, 4, 5, 6, 7) | **CO2** | **K4/ PO2** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | Reduce using mapping the following expression and implement the real minimal expression in NOR gates.<br>F= Σm (0, 2, 4, 6, 7, 8, 10, 12, 13, 15) | **CO2** | **K4/ PO2** | **7** |
| | **b).** | Using K-map method determine the prime implicant and obtain the possible minimal expression for the following function<br>F(A,B,C,D) = Σm(8,12,13) + d(1,2,4,6,7,11) | **CO2** | **K4/ PO2** | **8** |

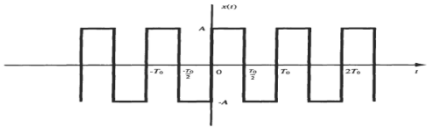
| | | | | | |
|---|---|---|---|---|---|
| **Unit-III** | | | | | |
| **5.** | **a).** | Design a full subtractor and implement it using NAND gates. Explain its operation with the help of truth table? | **CO3** | **K4/ PO3** | **7** |
| | **b).** | Design a half adder circuit using decoders and logic gates | **CO3** | **K4/ PO3** | **8** |
| **OR** | | | | | |
| **6.** | **a).** | Design a full adder circuit using two 4×1 multiplexers. | **CO3** | **K4/ PO3** | **7** |
| | **b).** | Design a logic circuit for following functions by using a 3 to 8 Decoder and logic Gates.<br>1. f1 (A,B,C) = Σ m(0,1,5,7)<br>f2 (A,B,C) = Σ m(1,3,5,7) | **CO3** | **K4/ PO3** | **8** |
| **Unit-IV** | | | | | |
| **7.** | **a).** | Convert a D flip flop into SR flip flop? | **CO4** | **K4/ PO2** | **7** |
| | **b).** | Design and explain about BCD Ripple counter. | **CO4** | **K4/ PO3** | **8** |
| **OR** | | | | | |
| **8.** | **a).** | Explain the universal shift registers with a neat sketch | **CO4** | **K3/ PO1** | **7** |
| | **b).** | Design Mod 6 Counter using D Flip Flop | **CO4** | **K4/ PO3** | **8** |
| **UNIT-V** | | | | | |
| **9.** | **a).** | List out the comparisons of TTL, RTL and ECL logic families | **CO5** | **K3/ PO1** | **7** |
| | **b).** | Design and explain NAND Gate using TTL Logic | **CO5** | **K4/ PO3** | **8** |
| **OR** | | | | | |
| **10.** | **a).** | Draw and explain the circuit diagram of DTL | **CO5** | **K3/ PO1** | **7** |
| | **b).** | Draw and explain the circuit diagram of RTL | **CO5** | **K3/ PO1** | **8** |

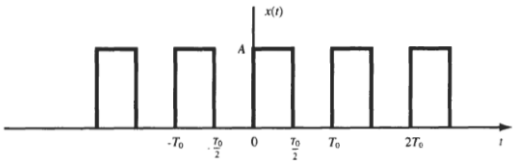
******

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19EE2203]**
**II B. Tech II Semester (R19) Regular Examinations**
**SIGNALS AND SYSTEMS**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | Define signal power and signal energy. Check whether $x(n) = (-0.5)^n u(n)$ is a power signal or energy signal. | **CO1** | **K3/PO1** | **7** |
| | **b).** | Check whether the following signals are periodic or not. If periodic find the fundamental period.<br>i) x(t)= 3 Cos t + sin $\sqrt{2}$t<br>ii) ii) $x[n] = Cos\frac{1}{4}$ | **CO1** | **K3/PO1** | **8** |
| | | **OR** | | | |
| **2.** | **a).** | What are the basic transformations of signals? Given x(t) = u(t)-u(t-3), plot x(t) and x(2t). | **CO1** | **K3/PO1** | **7** |
| | **b).** | Explain the system properties Linearity, Time-Invariance, Stability and Causality by giving examples. | **CO1** | **K3/PO1** | **8** |
| | | **UNIT-II** | | | |
| **3.** | **a).** | What is the significance of unit-impulse response? Convolve the two signals $x(t) = e^{-3t}u(t)$ and $h(t) = u(t+3)$ | **CO2** | **K4/PO2** | **7** |
| | **b).** | An LTI CT system is described by the difference equation: $y[n] + 2y[n-1] = x[n]$. Find the output y[n] when input x[n] = u[n]. Assume initial rest. | **CO2** | **K4/PO2** | **8** |
| | | **OR** | | | |
| **4.** | **a).** | Given the impulse response h(t) of an LTI system, how do you verify the system properties? Verify the stability of an LTI DT system with $h[n] = a^n u[n]$. | **CO2** | **K4/PO2** | **7** |
| | **b).** | Find the best approximation of signal x(t) = t in terms of y(t)=Sin t over an interval ($-\Pi \le t \le \Pi$) | **CO2** | **K3/PO1** | **8** |
| | | **UNIT-III** | | | |
| **5.** | **a).** | Obtain the trigonometric Fourier series for the following signal  | **CO3** | **K4/PO2** | **7** |

| | | | | | |
|---|---|---|---|---|---|
| | **b).** | Obtain the exponential Fourier series for x[n]=Sin 0.1ΠIn | **CO3** | **K4/PO2** | **8** |
| | | **OR** | | | |
| **6.** | **a).** | Obtain the Exponential Fourier series for the periodic signal x(t) shown below.<br>  <br> | **CO3** | **K4/PO2** | **7** |
| | **b).** | Show that complex exponentials ( $Z^n$) are eigen functions of LTI DT systems. | **CO3** | **K3/PO1** | **8** |
| | | **UNIT-IV** | | | |
| **7.** | **a).** | Find the Fourier Transform of $x(t)=e^{-2\|t\|}$ | **CO4** | **K3/PO1** | **7** |
| | **b).** | Derive the convolution property of the Continuous time Fourier Transform. | **CO4** | **K3/PO1** | **8** |
| | | **OR** | | | |
| **8.** | **a).** | Find the inverse DTFT of<br>$X(e^{j\omega}) = \frac{1}{(1-ae^{-j\omega})^2} \quad \|a\| < 1$ | **CO4** | **K3/PO1** | **7** |
| | **b).** | Obtain the step response of the system described by the following difference equation using DTFT.<br>$y[n] - ay[n-1] = x[n] \qquad \|a\| < 1$ | **CO4** | **K4/PO2** | **8** |
| | | **UNIT-V** | | | |
| **9.** | **a).** | Find the Z-transformof $x[n]=na^n u[n]$ | **CO5** | **PO1** | **7** |
| | **b).** | State Sampling theorem. What is 'Aliasing' and how it can be avoided? | **CO5** | **PO1** | **8** |
| | | **OR** | | | |
| **10.** | **a).** | (b)Find the inverse Z-transform<br>$X(z) = \frac{z}{2Z^2 - 3Z + 1} \qquad ROC: \|Z\| < \frac{1}{2}$ | **CO5** | **K3/PO1** | **7** |
| | **b).** | A signal $x(t) = \cos 5\pi t + 0.5\cos 10\pi t$ is instantaneously sampled. Find the maximum interval of sampling from which the signal can be recovered. | **CO5** | **K4/PO2** | **8** |

*****

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)**
**[B19ME2207]**
**II B. Tech II Semester (R19) Regular Examinations**
**PRIME MOVERS AND PUMPS**
**ELECTRICAL AND ELECTRONICS ENGINEERING**
**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
*****

| | | | CO | KL/ PO | M |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **a).** | What is the function of ignition system? Explain the important qualities of a good ignitions system in SI engine | **CO1** | **K4/ PO2** | **8** |
| | **b).** | With a neat sketch explain the valve timing diagram of a four stroke CI engine. | **CO1** | **K4/ PO2** | **7** |
| | | **OR** | | | |
| **2.** | **a).** | Describe the classification of IC Engines. What are its applications? | **CO1** | **K4/ PO2** | **8** |
| | **b).** | derive thermal efficiency of otto cycle with help of P-V and T-S diagram | **CO1** | **K4/ PO2** | **7** |
| | | **UNIT-II** | | | |
| **3.** | **a).** | With a neat sketch explain the working of a simple Rankine cycle with reheating system. | **CO2** | **K4/ PO2** | **8** |
| | **b).** | A simple Rankine cycle works between pressure of 30 bar and 0.04 bar, the initial condition of steam being dry saturated, calculate the cycle efficiency, work ratio and specific steam consumption. | **CO2** | **K4/ PO2** | **7** |
| | | **OR** | | | |
| **4.** | | A steam power plant operates on the ideal reheat Rankine cycle utilizing steam which leaves the boiler and enters the turbine at 4 MPa,400 $^0$C After expansion in the turbine to 400kPa.The steam is reheated to 400 $^0$CThen expanded in the low-pressure turbine to 10 KPa. Determine the cycle efficiency and work ratio | **CO2** | **K4/ PO2** | **15** |
| | | **UNIT-III** | | | |
| **5.** | | In a 50% reaction turbine stage running at 3000rpm, the exit angles are 300 and the inlet angles are 500. The mean diameter is 1m. The steam flow rate is 10000 kg/minute and the stage efficiency is 85%. Determine: i) Power output of the stage. ii) The specific enthalpy drop in the stage | **CO2** | **K4/ PO2** | **15** |
| | | **OR** | | | |
| **6.** | **a).** | Explain the working principle of closed gas turbine along with p-v and T-s diagrams | **CO2** | **K3/ PO1** | **7** |
| | **b).** | A Gas turbine plant works between the temperature limits of 11520K | **CO2** | **K3/** | **8** |

| | | | | | |
|---|---|---|---|---|---|
| | | and 2880 K Isentropic efficiency for compressor and turbines are 0.85 and 0.8 respectively. Determine the optimum pressure ratio for maximum work output and also for maximum Cycle thermal efficiency. | | **PO1** | |
| **UNIT-IV** | | | | | |
| **7.** | **a).** | A jet of water of diameter 100mm moving with a velocity of 25m/sec strikes a curved fixed symmetrical plate at the center. Find the force exerted by the jet of water in the direction of the jet, if the jet is deflected through an angle of 1200 at the outlet of the curved plate | **CO3** | **K3/ PO1** | **8** |
| | **b).** | A 15 cm diameter jet of water with a velocity of 20 m/sec strikes a plate normally. If the plate is moving with a velocity of 8m/sec in the direction of the jet, calculate the work done per second on the plate and the efficiency of the energy transfer. | **CO3** | **K3/ PO1** | **7** |
| **OR** | | | | | |
| **8.** | **a).** | Explain the working principal of centrifugal pump with help of neat sketch | **CO3** | **K3/ PO1** | **8** |
| | **b).** | Illustrate the characteristics curves of centrifugal pump. | **CO3** | **K4/ PO2** | **7** |
| **UNIT-V** | | | | | |
| **9.** | **a).** | Explain the working principle of pelton wheel with help of neat sketch | **CO4** | **K4/ PO2** | **7** |
| | **b).** | A Kaplan turbine working under a head of 25 m develops 16000 kW shaft power. The outer diameter of the runner is 4 m and hub diameter is 2 m. The guide blade angle is 35. The hydraulic and overall efficiency are 90% and 85% respectively. If the velocity of whirl is zero at outlet, determine: i) runner vane angles at inlet and outlet, and ii) speed of turbine | **CO4** | **K4/ PO2** | **8** |
| **OR** | | | | | |
| **10.** | **a).** | Explain the characteristics curves of hydraulic turbines | **CO4** | **K4/ PO2** | **7** |
| | **b).** | A Pelton wheel is to be designed for the following specifications. Power =735.75 kW S.P. Head = 200 m, Speed = 800 r.p.m., $\eta_0$ = 0.86 and jet diameter is not to exceed one-tenth of the wheel diameter. Determine: i) Wheel diameter, ii) The number of jets required, and iii) Diameter of the jet. Take Cv = 0.98 and speed ratio = 0.45. | **CO4** | **K4/ PO2** | **8** |

*****

**[B19CS2209]**

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)**

**II/IV B.Tech II Semester (R19) Regular Examinations**

**OOPS THROUGH JAVA**

**Common to ECE & EEE**

**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks:75**

Answer **ONE Question** from **EACH UNIT.**

All questions carry equal marks.

*****

| | | | | CO | K |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| **1.** | **(a).** | Define an Array and explain different types of arrays. By **applying** the concept of an array find the largest element from a given set of elements in an array. | **15M** | **CO1-PO1** | **K3** |
| | | **(OR)** | | | |
| **2.** | **(a).** | Illustrate the differences between C, C++ and Java with a neat diagram | **8M** | **CO1-PO1** | **K3** |
| | **(b).** | Illustrate the structure of a java program | **7M** | **CO1-PO1** | **K3** |
| | | **UNIT-II** | | | |
| **3.** | **(a).** | Illustrate the concept of Inheritance and its different types with neat pictures. | **8M** | **CO2-PO2** | **K3** |
| | **(b).** | Construct a sample java program of user choice which applies the functionality of inheritance. | **7M** | **CO2-PO2** | **K3** |
| | | **(OR)** | | | |
| **4.** | | Explain polymorphism and its types. Construct a java program which Illustrates the functionality of method overloading and method overriding. | **15M** | **CO2-PO2** | **K3** |
| | | **UNIT-III** | | | |
| **5.** | | Illustrate how to solve the problem of multiple inheritance in java with an example.Also differentiate between class and an interface. | **15M** | **CO3-PO2** | **K3** |
| | | **(OR)** | | | |
| **6.** | **(a).** | Interpret the concept of packages in java. | **7M** | **CO3-PO2** | **K3** |
| | **(b).** | Construct a java program that shows the functionality of creating a public class in an already existing user defined package. | **8M** | **CO3-PO3** | **K3** |
| | | **UNIT -IV** | | | |
| **7.** | **(a).** | Compare **throw** and **throws** in Exception Handling | **8M** | **CO3-PO2** | **K3** |
| | **(b).** | Construct a java program which creates a user defined exception | **7M** | **CO3-PO3** | **K3** |
| | | **(OR)** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **8.** | | Identify the different ways of creating a Thread in java programming, show with examples programs wherever necessary. | **15M** | **CO3-PO3** | **K3** |
| | | **UNIT-V** | | | |
| **9.** | | Illustrate Life cycle of an applet. Construct a sample Applet program which displays current date. | **15M** | **CO4-PO3** | **K3** |
| | | **(OR)** | | | |
| **10.** | | Apply the concept of Event Handling and construct a java program which contains a button with name "day",when clicked on it displays the current day. | **15M** | **CO4-PO3** | **K3** |

**[B19HS2201]**

**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)**

**II/IV B.Tech II Semester (R19) Regular Examinations**

**MANAGEMENT AND ORGANIZATIONAL BEHAVIOR**

**Common to ECE & EEE**

**MODEL QUESTION PAPER**

**TIME: 3Hrs.** **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**

All questions carry equal marks.

| | | CO | KL | M |
|---|---|---|---|---|
| | **UNIT-I** | | | |
| **1.** | Define Management and Explain its functions. | **CO1** | **K2** | **15** |
| | **OR** | | | |
| **2.** | Explain the principles of Management as outlined by Henry Fayol. | **CO1** | **K2** | **15** |
| | **UNIT-II** | | | |
| **3.** | Describe the functions performed by Human Resource Manager. | **CO2** | **K2** | **15** |
| | **OR** | | | |
| **4.** | Define Marketing, Explain in detail about Marketing mix. | **CO2** | **K2** | **15** |
| | **UNIT-III** | | | |
| **5.** | Explain about the importance of Mission, Goal, Objective and Strategy. | **CO3** | **K2** | **15** |
| | **OR** | | | |
| **6.** | What do you understand by SWOT analysis? Explain how it can be carried out. | **CO3** | **K2** | **15** |
| | **UNIT-IV** | | | |
| **7.** | What is Organisational Change and describe about the types of change. | **CO4** | **K2** | **15** |
| | **OR** | | | |
| **8.** | What is Motivation and Explain about Maslows Human Need Theory. | **CO4** | **K2** | **15** |
| | **UNIT-V** | | | |
| **9.** | Explain about the consequences of conflicts in an organisation. | **CO5** | **K2** | **15** |
| | **OR** | | | |
| **10.** | What is Stress & Describe about methods of managing Stress. | **CO5** | **K2** | **15** |