CBCS SCHEME

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17MAT31

Third Semester B.E. Degree Examination, June/July 2019
Engineering Mathematics – III

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Obtain the fourier series of the function $f(x) = x - x^2$ in $-\pi \le x \le \pi$ and hence deduce $\frac{\pi^2}{12} = \frac{1}{1^2} - \frac{1}{2^2} + \frac{1}{3^2} - \frac{1}{4^2} + \ldots\ldots$ **(08 Marks)**

b. Obtain the Half Range Fourier cosine series for the $f(x) = \sin x$ in $[0, \pi]$. **(06 Marks)**

c. Obtain the constant term and the coefficients of first sine and cosine terms in the fourier expansion of y given

x :	0	1	2	3	4	5
y :	9	18	24	28	26	20

(06 Marks)

OR

2 a. Obtain the fourier series of $f(x) = \frac{\pi - x}{2}$ in $[0, 2\pi]$ and hence deduce that $\frac{\pi}{4} = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \ldots\ldots$ **(08 Marks)**

b. Find the fourier half range cosine series of the function $f(x) = 2x - x^2$ in $[0, 3]$. **(06 Marks)**

c. Express y as a fourier series upto first harmonic given

x :	0	30	60	90	120	150	180	210	240	270	300	330
y :	1.8	1.1	0.30	0.16	1.5	1.3	2.16	1.25	1.3	1.52	1.76	2.0

(06 Marks)

Module-2

3 a. Find the fourier transform of $f(x) = \begin{cases} a^2 - x^2 ; & |x| \le a \\ 0 ; & |x| > a \end{cases}$ and hence deduce $\int_0^a \frac{\sin x - x\cos x}{x^3}\, dx = \frac{\pi}{4}$ **(08 Marks)**

b. Find the fourier sine transform of $e^{-|x|}$ and hence evaluate $\int_0^\infty \frac{x \sin ax}{1+x^2}\, dx ; a > 0$ **(06 Marks)**

c. Obtain the z-transform of $\cos n\theta$ and $\sin n\theta$. **(06 Marks)**

OR

4 a. Find the fourier transform of $f(x) = xe^{-|x|}$. **(08 Marks)**

b. Find the fourier cosine transform of f(x) where

$$f(x) = \begin{cases} x ; & 0 < x < 1 \\ 2 - x ; & 1 < x < 2 \\ 0 ; & x > 2 \end{cases}$$

(06 Marks)

c. Solve $u_{n+2} + 6u_{n+1} + 9u_n = 2^n$ with $u_0 = u_1 = 0$ using z-transform. **(06 Marks)**

Module-3

5 a. Fit a straight line $y = ax + b$ for the following data by the method of least squares.

x :	1	3	4	6	8	9	11	14
y :	1	2	4	4	5	7	8	9

(08 Marks)

b. Calculate the coefficient of correlation for the data:

x :	92	89	87	86	83	77	70	63	53	50
y :	86	83	91	77	68	85	54	82	37	57

(06 Marks)

c. Compute the real root of $x\log_{10}x - 1.2 = 0$ by the method of false position. Carry out 3 iterations in (2, 3). **(06 Marks)**

OR

6 a. Fit a second degree parabola to the following data $y = a + bx + cx^2$.

x :	1	1.5	2	2.5	3	3.5	4
y :	1.1	1.3	1.6	2	2.7	3.4	4.1

(08 Marks)

b. If θ is the angle between two regression lines, show that

$\tan\theta = \left(\frac{1-r^2}{r}\right)\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$; explain significance of $r = 0$ and $r = \pm 1$. **(06 Marks)**

c. Using Newton Raphson method, find the real root of the equation $3x = \cos x + 1$ near $x_0 = 0.5$. Carry out 3 iterations. **(06 Marks)**

Module-4

7 a. From the following table, estimate the number of students who obtained marks between 40 and 45.

Marks :	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of students	31	42	51	35	31

(08 Marks)

b. Use Newton's dividend formula to find f(9) for the data:

x :	5	7	11	13	17
f(x) :	150	392	1452	2366	5202

(06 Marks)

c. Find the approximate value of $\int_0^{\pi/2}\sqrt{\cos\theta}\,d\theta$ by Simpson's $\frac{1}{3}^{rd}$ rule by dividing $\left[0, \frac{\pi}{2}\right]$ into 6 equal parts. **(06 Marks)**

OR

8 a. The area A of a circle of diameter d is given for the following values:

d :	80	85	90	95	100
a :	5026	5674	6362	7088	7854

Calculate the area of circle of diameter 105 by Newton's backward formula. **(08 Marks)**

b. Using Lagrange's interpolation formula to find the polynomial which passes through the points (0, –12), (1, 0), (3, 6), (4, 12). **(06 Marks)**

c. Evaluate $\int_4^{5.2}\log_e x\,dx$ taking 6 equal parts by applying Weddle's rule. **(06 Marks)**

Module-5

9 a. If $\vec{F} = 3xy\,\hat{i} - y^2\,\hat{j}$, evaluate $\int_C \vec{F}.d\vec{r}$ where 'C' is arc of parabola $y = 2x^2$ from (0, 0) to (1, 2) **(08 Marks)**

b. Evaluate by Stokes theorem $\oint_C (\sin z\,dx - \cos x\,dy + \sin y\,dz)$, where C is the boundary of the rectangle $0 \le x \le \pi$; $0 \le y \le 1$, $z = 3$ **(06 Marks)**

c. Prove that the necessary condition for the $I = \int_{x_1}^{x_2} f(x, y, y')dx$ to be extremum is $\frac{\partial f}{\partial y} - \frac{d}{dx}\left(\frac{\partial f}{\partial y'}\right) = 0$ **(06 Marks)**

OR

10 a. Using Green's theorem evaluate $\int_C (3x^2 - 8y^2)dx + (4y - 6xy)dy$, where C is the boundary of the region bounded by the lines x = 0, y = 0, x + y = 1. **(08 Marks)**

b. Find the external value of $\int_0^{\pi/2} [(y')^2 - y^2 + 4y\cos x]dx$. Given that $y(0) = 0$, $y\left(\frac{\pi}{2}\right) = 0$. **(06 Marks)**

c. Prove that the shortest distance between two points in a plane is along a straight line joining them. **(06 Marks)**

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17EC32

Third Semester B.E. Degree Examination, June/July 2019
Electronic Instrumentation

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define the following terms as applied to an electronic instruments:
i) Accuracy
ii) Precision
iii) Error
iv) Resolution
v) Sensitivity **(10 Marks)**

b. A basic D'Arsonval movement with an internal resistance of 50Ω and a fall scale deflection current of 2 mA is to be used as a multirange voltmeter. Determine the series resistances to obtain the voltage ranges of 0-10V, 0-50V, 0-100V and 0-500V. **(10 Marks)**

OR

2 a. Explain the working of a true RMS voltmeter with a suitable diagram. **(10 Marks)**

b. Explain the various types of thermocouple used in RF ammeter in detail. **(10 Marks)**

Module-2

3 a. Explain the working of dual slope type DVM with a block diagram. **(10 Marks)**

b. With a neat block diagram, explain the working of frequency meter. **(10 Marks)**

OR

4 a. Draw the block diagram and explain the working principle of successive approximation type DVM. **(10 Marks)**

b. Explain the working of digital pH meter with the help of block diagram. **(10 Marks)**

Module-3

5 a. Draw the block diagram of CRO and explain the functions of each block. **(10 Marks)**

b. Explain with a block diagram AF sine-square wane generator. **(10 Marks)**

OR

6 a. Explain with a block diagram of function generator in detail. **(10 Marks)**

b. Explain the operation of digital storage oscilloscope with a help of block diagram. **(10 Marks)**

Module-4

7 a. Explain with a help of a neat diagram, construction and principle of operation of Megger. **(10 Marks)**

b. Draw the Maxwell's bridge to determine inductance in terms of known capacitance and derive Q-factor and expression for inductance. **(10 Marks)**

OR

8 a. Find parallel R and C, that causes a Wien's bridge to null with the following components values. $R_1 = 2.7\ K\Omega$, $R_2 = 22\ K\Omega$, $C_1 = 5\ \mu F$, $R_4 = 100\ K\Omega$ and operating frequency is 2.2 kHz. **(10 Marks)**

b. Explain susceptance method of Q-measurement. **(06 Marks)**

c. The self capacitance of a coil is to be measured by Q-meter. The first measurement result is $f_1 = 1.5$ MHz and $C_1 = 550$ PF. The second measurement result is $f_2 = 3$ MHz and a new value of tuning capacitor is 110 pF. Find the distributed capacitance and inductance. **(04 Marks)**

Module-5

9 a. What is transducer? Explain working of resistive position transducer with a neat sketch. **(10 Marks)**

b. What are the different types of photoelectric transducer? Explain photo voltaic transducer. **(10 Marks)**

OR

10 a. With a neat sketch, explain construction and working of LVDT. **(10 Marks)**

b. What is gauge factor? Derive an expression for gauge factor and prove that $K = 1 + 2\mu$. **(10 Marks)**

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17EC33

Third Semester B.E. Degree Examination, June/July 2019
Analog Electronics

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Draw the graphical symbol and r_e-equivalent circuit for the common Emitter and common base configuration including the effect of r_o. **(06 Marks)**

b. Write the expression for Z_i, Z_o and A_v of a voltage divider configuration using AC equivalent circuit with r_e model, [with bypassed R_E], for a BJT amplifier. **(08 Marks)**

c. For the circuit shown in Fig.Q.1(c), determine Z_i, Z_o and A_v. **(06 Marks)**

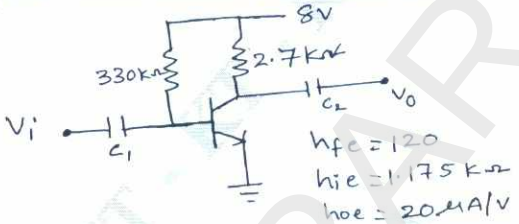

Fig.Q.1(c)

OR

2 a. Draw the circuit diagram of Darlington amplifier and find DC parameters I_{C_2} and V_{CE_2}. **(06 Marks)**

b. Derive the expression for Z_i, Z_o and A_v for common emitter fixed bias configuration using approximate hybrid equivalent circuit. **(08 Marks)**

c. Determine input impedance, output impedance and voltage gain of emitter follower, where V_{CC} = 12V, R_B = 220 KΩ, R_E = 3.3 KΩ, β = 100 and $r_o = \infty\Omega$. Use r_e model. **(06 Marks)**

Module-2

3 a. Describe the construction and working principle of n-channel JFET. **(06 Marks)**

b. Derive the expression for Z_i, Z_o and A_v using AC equivalent circuit for JFET common-gate configuration. **(08 Marks)**

c. For the FET amplifier show in Fig.Q.3(c). Calculate Z_i, Z_o and A_v with the effect of r_d.

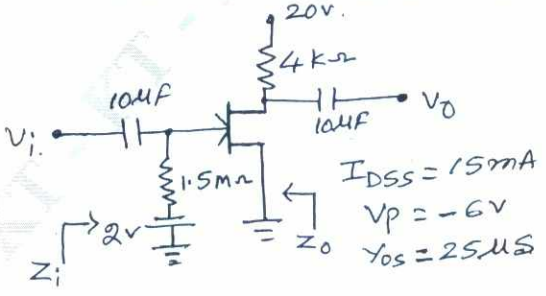

Fig.Q.3(c) **(06 Marks)**

OR

4 a. Draw and explain the drain and transfer characteristic of n-channel depletion MOSFET. **(06 Marks)**

b. Write the ac equivalent circuit for FET self biased configuration and determine Z_i, Z_o and A_v [with Rs bypassed). **(08 Marks)**

c. Give the comparison between JFET and MOSFET. **(06 Marks)**

Module-3

5 a. Draw the single RC coupled BJT amplifier and derive the expression for lower cut-off frequencies due to coupling capacitors C_S and C_C. **(10 Marks)**

b. What is miller effect? Prove that Miller effect input capacitance is $C_{mi} = (1 - A_v)C_f$ and out miller effect capacitance is $C_{mo} = \left(1 - \frac{1}{A_v}\right)C_f$. **(10 Marks)**

OR

6 a. Draw the high frequency ac equivalent circuit for FET amplifier and derive f_{Hi} and f_{Ho}. **(10 Marks)**

b. Derive the expression for overall higher cut-off frequency for a multistage amplifier. **(05 Marks)**

c. An amplifier consists of 3 identical stages in cascade, the bandwidth of overall-amplifier extends from 20Hz to 20kHz. Find the bandwidth of individual stages. **(05 Marks)**

Module-4

7 a. Draw the block diagrams of the following feedback connections types:
i) Voltage-series feedback
ii) Voltage-shunt feedback
iii) Current-series feedback
iv) Current-shunt feedback **(08 Marks)**

b. Draw the circuit diagram of FET phase shift oscillator and explain the operation. Write the expression for the frequency of oscillations. **(08 Marks)**

c. In a Colpitts oscillator, $C_1 = C_2 = C$ and $L = 100\mu H$. The frequency of oscillations is 500kHz. Determine the value of C. **(04 Marks)**

OR

8 a. With block diagram of voltage shunt feedback connection type, obtain the expression for input impedance. **(08 Marks)**

b. With the help of neat circuit diagram, explain the operation of transistor Hartley oscillator write the expression for the frequency of oscillations. **(08 Marks)**

c. A crystal has the following parameter L = 0.334H, C_m = 1pF, C = 0.065pF and R = 5.5KΩ. Find the series and parallel resonant frequency. **(04 Marks)**

Module-5

9 a. Explain the operation of series-fed class-A power amplifier and show that maximum conversion efficiency is 25%. **(08 Marks)**

b. A single transistor amplifier with transformer coupled load produces harmonic amplitudes in the output as $B_0 = 1.5mA$, $B_1 = 120mA$, $B_2 = 10mA$, $B_3 = 4mA$, $B_4 = 2mA$ and $B_5 = 1mA$
i) Determine the percentage total harmonic distortion.
ii) Assume a second identical transistor is used along with a suitable transformer to provide pushpull operation. Use the above harmonic amplitudes to find the new total harmonic distortion. **(06 Marks)**

c. Draw the block diagram of shunt voltage regulator and explain the individual blocks. **(06 Marks)**

OR

10 a. What is harmonic distortion? Explain the three point method of calculating the second harmonic distortion. **(06 Marks)**

b. A class-B push-pull amplifier operating with V_{CC} = 25V provides a 22V peak signal to an 8Ω load. Find: i) Peak load current ii) dc current drawn from the supply 11P iii) DC power iv) ac power v) Efficiency. **(06 Marks)**

c. Draw the block diagram of series voltage regulator and explain the operation. Also find the o/p voltage and the zener current for the series regulator shown in Fig.Q.10(c). **(08 Marks)**

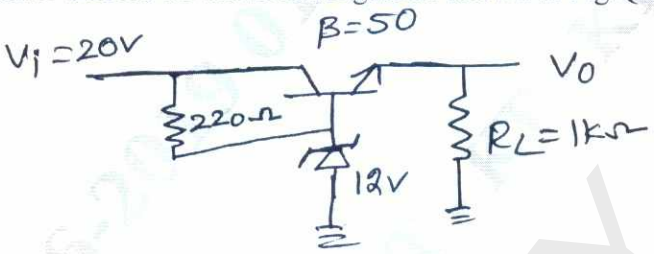

Fig.Q.10(c)

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17EC34

Third Semester B.E. Degree Examination, June/July 2019
Digital Electronics

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Construct a truth table and write a Boolean expression for the problem statement. An output variable Y is to be true when the value of inputs exceeds 4. The weights for each input variable is a = 4, b = 3, c = –1, and d = 1. Design the logic circuit for the obtained expression. **(10 Marks)**

b. Place the equation $P = f(a,b,c) = ab + \bar{a}c + b\bar{c}$ into proper canonical form and write the minterms. **(05 Marks)**

c. What do you mean by canonical SOP and canonical POS? Explain with example? **(05 Marks)**

OR

2 a. Simplify K = f(w, x, y, z) = Σm(0, 1, 5, 13, 15) + Σd(2, 7, 10, 14) using K-map method. Draw the logic diagram for obtained expression. **(10 Marks)**

b. Simplify D = f(a, b, c, d) = Σm(0, 1, 2, 3, 6, 7, 8, 9, 12, 15) using QM – method, verify the same using K–map. Draw the logic diagram for simplified expression. **(10 Marks)**

Module-2

3 a. What is an encoder? Design 4 to 2 priority encoder? **(08 Marks)**

b. Realize the function X = f(a, b, c, d) = Σm(0, 3, 7, 10, 13) using 74LS138 ICs. **(08 Marks)**

c. Design 4 : 1 Mux and draw the logic diagram using basic gates. **(04 Marks)**

OR

4 a. Implement f(a, b, c, d) = Σm(0, 1, 5, 6, 7, 10, 15) using 8 : 1 Mux with a, b, c as select lines. **(08 Marks)**

b. Design a binary full subtractor using NAND gates only. **(06 Marks)**

c. Explain about carry look ahead adder. **(06 Marks)**

Module-3

5 a. Obtain the characteristic equations for D and T flip-flops. **(08 Marks)**

b. Explain the operation of SR–Flip-Flop with the help of logic diagram. Draw functional table. **(08 Marks)**

c. What is race around condition? Explain with diagram. **(04 Marks)**

OR

6 a. Explain the working of master slave J-K flip flop with the help of logic diagram. Draw the timing diagrams of the same. **(10 Marks)**

b. Explain D-flip-flop operation using positive edge triggered clock. **(06 Marks)**

c. Write two-two difference between :
i) Combinational and sequential logic
ii) Latch and flip-flop. **(04 Marks)**

Module-4

7 a. What is register? Explain with diagram of 4-bit serial-in parallel-out shift register. **(10 Marks)**

b. Explain 3-bit asynchronous up and down binary counters. **(10 Marks)**

OR

8 a. Design mod-5 ripple counter using T-flip-flops. **(08 Marks)**

b. Design 3-bit synchronous up counter. **(08 Marks)**

c. Compare asynchronous and synchronous counters. **(04 Marks)**

Module-5

9 a. Design a Mealy type sequence detector to detect a serial input sequence of 101. **(10 Marks)**

b. Design 2-bit synchronous up counter. **(10 Marks)**

OR

10 a. Analyze the following sequential circuit, by writing input and output equations, state table and state diagram. **(12 Marks)**

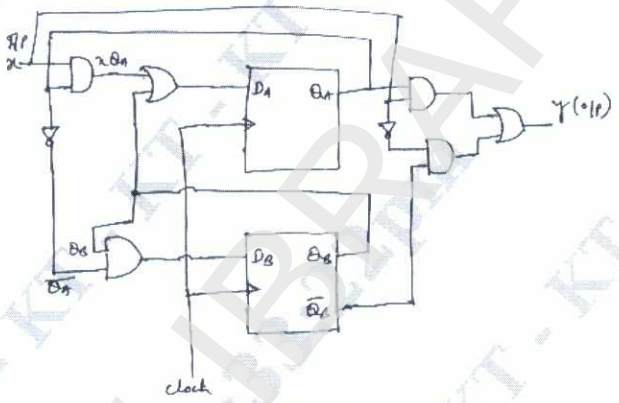

Fig.Q10(a)

b. What are Mealy and Moore models? Explain briefly with diagram. **(04 Marks)**

c. Draw a sate table and state diagram with an example. **(04 Marks)**

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17EC35

Third Semester B.E. Degree Examination, June/July 2019
Network Analysis

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define the following terms with examples:
i) Active elements
ii) Passive elements
iii) Linear and non linear elements
iv) Lumped node
v) Unilateral and bilateral elements. **(10 Marks)**

b. Use the node analysis and find the value of V_x in the circuit shown in below Fig.Q.1(b). Such that the current through the impedance $(2 + J3)\Omega$ is zero.

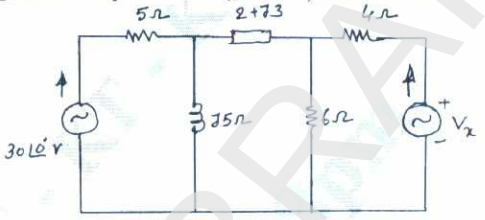

Fig.Q.1(b) **(10 Marks)**

OR

2 a. Derive an expression for i) Δ to Y transformation ii) Y to Δ transformation. **(10 Marks)**

b. Find the voltage across 20Ω resistor in the network shown in Fig.Q.2(b) below by using Mesh analysis method. **(10 Marks)**

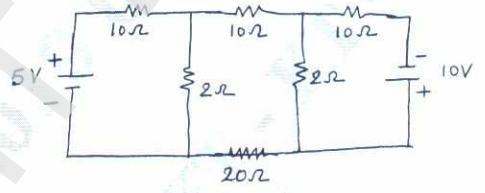

Fig.Q.2(b)

Module-2

3 a. State and prove Millman's theorem with an example. **(10 Marks)**

b. Find the Thevenin's equivalent circuit of Fig.Q.3(b) shown below: **(10 Marks)**

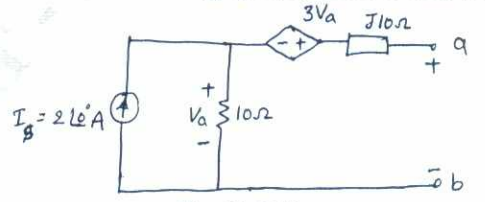

Fig.Q.3(b)

OR

4 a. Prove that the maximum power transferred from source to load when,

i) $R_L = R_o$ ii) $R_L = |Z_o|$ iii) $Z_L = \overset{*}{Z}_o$ **(10 Marks)**

b. Find the value of i_b using Norton's equivalent circuit when R = 667Ω, refer Fig.Q.4(b). **(10 Marks)**

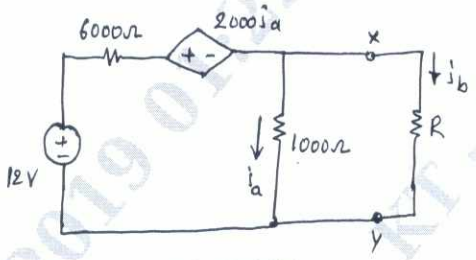

Fig.Q.4(b)

Module-3

5 a. Determine i, $\frac{di}{dt}$, $\frac{d^2i}{dt^2}$ at $t = 0^+$, when the switch is closed at t = 0, from the Fig.Q.5(a) shown below. **(10 Marks)**

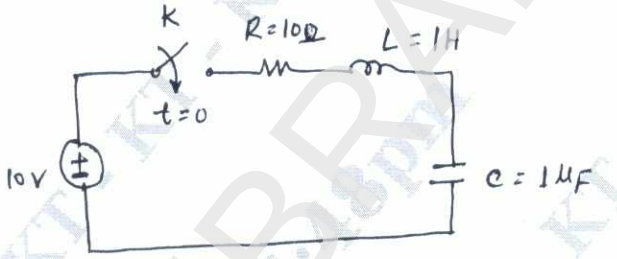

Fig.Q.5(a)

b. Find :

i) $i(0^+)$ and $v(0^+)$

ii) $\frac{di(0^+)}{dt}$ and $\frac{dv(0^+)}{dt}$

iii) $I(\infty)$ and $v(\infty)$

from the circuit shown in Fig.Q.5(b) below. **(10 Marks)**

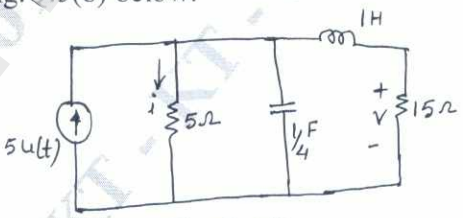

Fig.Q.5(b)

OR

6 a. Deduce the Laplace transform of the following:

i) Sin^2t ii) Cos^2t iii) Sinwt iv) $\int_0^t i(t).dt$ **(10 Marks)**

b. State and prove Initial and Final value theorems. **(10 Marks)**

Module-4

7 a. Demonstrate the terms: i) Resonance ii) Q-factor iii) Band width iv) Selectivity v) Half power frequency pertaining to a R-L-C series circuit. **(10 Marks)**

b. Prove that the Resonating frequency in a R-L-C series circuit is geometrical mean of half power frequencies i.e. $f_0 = \sqrt{f_1 f_2}$. **(10 Marks)**

OR

8 a. Evaluate w_0, Q, BW and half power frequencies and the output voltage V at W_0, refer Fig.Q.8(a). **(10 Marks)**

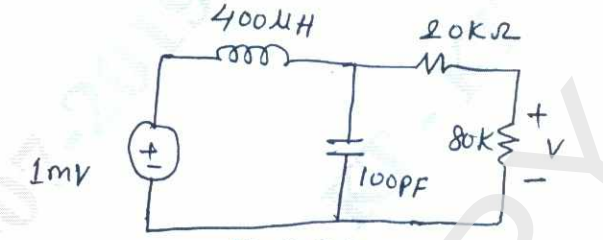

Fig.Q.8(a)

b. Derive an expression for resonance by varying R_L in parallel RLC circuit. **(10 Marks)**

Module-5

9 a. Express Z parameters in terms h parameters and what are hybrid parameters. **(10 Marks)**

b. Determine the transmission parameters for the network shown Fig.Q.9(b) below. **(10 Marks)**

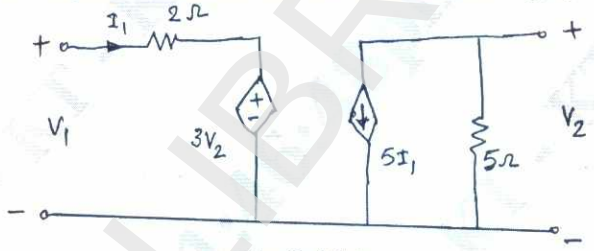

Fig.Q.9(b)

OR

10 a. Obtain the condition of transmission parameters for two networks connected in cascade. **(10 Marks)**

b. Determine the Z-parameters for the circuit shown in Fig.Q.10(b) below. **(10 Marks)**

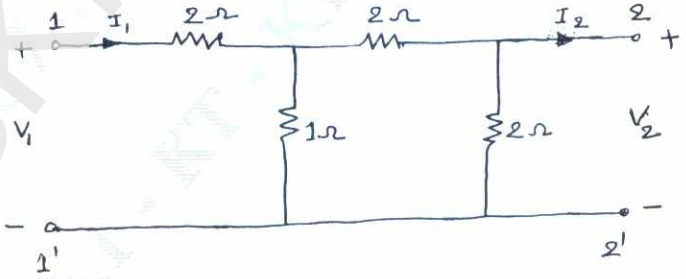

Fig.Q.10(b)

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17EC36

Third Semester B.E. Degree Examination, June/July 2019
Engineering Electromagnetics

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. State and explain Coulomb's law of force between two point charges in vector form. **(06 Marks)**

b. Identical point charges of 3μC are located at four corners of the square of 5 cm side. Find the magnitude of the force on any charge. **(08 Marks)**

c. Define Electric Field Intensity. Derive the electric field intensity due to 'n' number of point charges. **(06 Marks)**

OR

2 a. Derive the expression for the electric field intensity due to infinite line charge. **(06 Marks)**

b. Obtain the expression for an electric field intensity due to charged circular ring of radius 'r' placed in x-y plane, at a point (0, 0, z), having uniform line charge density of ρ_L (c/m). **(06 Marks)**

c. A uniform line charge ρ_L = 25 nc/m lies on the line x = –3m and y = 4m in free space. Find the electric field intensity at a point (2, 3, 15) **(06 Marks)**

Module-2

3 a. State and explain Gauss's law and prove Gauss's law as applied to point charge. **(06 Marks)**

b. Given that the field $\vec{D} = \frac{5\sin\theta\cos\phi}{r}\,\vec{ar}$ (c/m^2). Find volume charge density. **(06 Marks)**

c. Given $\vec{D} = 5r\,\vec{ar}$ (c/m^2), prove divergence theorem for a shell region enclosed by spherical surfaces at r = a and r = b (b > a) and centered at the origin. **(08 Marks)**

OR

4 a. Explain the concept of work and potential and obtain the expression for potential difference between two points due to an electric field produced by a point charge. **(06 Marks)**

b. Obtain the point form of continuity equation. **(06 Marks)**

c. Given the current density $\vec{J} = \frac{2}{r^2}\cos\theta\,\vec{ar} + 20e^{-2r}\sin\theta\,\vec{a\theta} - r\sin\theta\cos\phi\,\vec{a\phi}$ (A/m^2)

i) Find $\vec{J}$ at r = 3m, θ = 0°, φ = π.

ii) Find the total current passing through spherical surface r = 3m, 0 < θ < 20°, 0 < φ < 2π. **(08 Marks)**

Module-3

5 a. From point form of Gauss's law, derive Poisson's and Laplace's equation. **(05 Marks)**

b. State and prove uniqueness theorem. **(08 Marks)**

c. Applying Laplace's equation, obtain the expression for capacitance of a parallel plate capacitor. The distance between two plates are 'd' and the area of plate is 'A'. **(07 Marks)**

OR

6 a. Using Biot - Savart law obtain the expression for magnetic field intensity at a point due to infinitely long straight conductor. **(08 Marks)**

b. Given the magnetic field $\vec{H} = 2r^2(z+1)\sin\phi\, \vec{a\phi}$. Verify stokes theorem for the portion of a cylindrical surface defined by r = 2, $\frac{\pi}{4} \le \phi \le \frac{\pi}{2}$, $1 \le z \le 1.5$ and for its perimeter. Given vector magnetic potential. **(08 Marks)**

c. $\vec{A} = x^2 \vec{a}_x + 2yz\vec{a}_y - x^2 \vec{a}_z$. Find the magnetic flux density. **(04 Marks)**

Module-4

7 a. Derive the expression for the force acting on a differential current element placed in a magnetic field. **(06 Marks)**

b. A point charge Q = –1.2 (C) has velocity $\vec{V} = 5\vec{a}_x + 2\vec{a}_y - 3\vec{a}_z$ m/s. Find the magnitude of the force exerted on the charge if

i) $\vec{E} = -18\vec{a}_x + 5\vec{a}_y - 10\vec{a}_z$ (V/m)

ii) $\vec{B} = -4\vec{a}_x + 4\vec{a}_y + 3\vec{a}_z$ (T) **(06 Marks)**

c. A current element $I_1dL_1 = 10^{-4}\ \vec{a}_z$ (A.m) is located at $P_1(2, 0, 0)$ and another current element $I_2\,dL_2 = 10^{-6}(\vec{a}_x - 2\vec{a}_y + 3\vec{a}_z)$ (A.m) is located at $P_2(-2, 0, 0)$. Find the force exerted on I_1dL_1 by I_2dL_2. **(08 Marks)**

OR

8 a. Discuss the magnetic boundary conditions as applicable to $\vec{B}$ and $\vec{H}$ at the interface between two different magnetic materials. **(10 Marks)**

b. Write short notes on :

i) Energy Density in magnetic field ii) Forces on magnetic materials. **(10 Marks)**

Module-5

9 a. List Maxwell's equations in integral form and derive the point form of Maxwell's equation for time varying fields. **(12 Marks)**

b. Show that in a capacitor the conduction current density is equal to displacement current density for applied voltage $V(t) = V_o \cos wt$. **(08 Marks)**

OR

10 a. What is Uniform plane wave? Derive the expression of uniform plane wave travelling in free space. **(10 Marks)**

b. State and prove Poynting theorem. Also show that average power

$P_{avg} = \frac{1}{2}\frac{E_m^2}{\eta}$ (W/m^2). **(10 Marks)**

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CBCS SCHEME

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17MATDIP31

Third Semester B.E. Degree Examination, June/July 2019
Additional Mathematics – I

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Find the sine of the angle between $\vec{a} = 2\hat{i} - 2\hat{j} + \hat{k}$ and $\vec{b} = \hat{i} - 2\hat{j} + 2\hat{k}$. **(08 Marks)**

b. Express the complex number $\frac{(1+i)(1+3i)}{1+5i}$ in the form a + ib. **(06 Marks)**

c. Find the modulus and amplitude of $\frac{(1+i)^2}{3+i}$. **(06 Marks)**

OR

2 a. Show that $(1+\cos\theta+i\sin\theta)^n + (1+\cos\theta-i\sin\theta)^n = 2^{n+1}\cdot\cos^n\left(\frac{\theta}{2}\right)\cdot\cos\left(\frac{n\theta}{2}\right)$. **(08 Marks)**

b. If $\vec{a} = 2\hat{i} + 3\hat{j} - 4\hat{k}$ and $\vec{b} = 8\hat{i} - 4\hat{j} + \hat{k}$, then prove that $\vec{a}$ is perpendicular to $\vec{b}$. Also find $|\vec{a} \times \vec{b}|$. **(06 Marks)**

c. Determine λ such that $\vec{a} = \hat{i} + \hat{j} + \hat{k}$, $\vec{b} = 2\hat{i} - 4\hat{k}$ and $\vec{c} = \hat{i} + \lambda\hat{j} + 3\hat{k}$ are coplanar. **(06 Marks)**

Module-2

3 a. If $y = \cos(m\log x)$ then prove that $x^2 y_{n+2} + (2n+1)xy_{n+1} + (m^2+n^2)y_n = 0$. **(08 Marks)**

b. Find the angle of intersection of the curves $r^2\sin 2\theta = a^2$ and $r^2\cos 2\theta = b^2$. **(06 Marks)**

c. Find the pedal equation of the curve $r = a(1+\sin\theta)$. **(06 Marks)**

OR

4 a. Obtain the Maclaurin's series expansion of $\log\sec x$ up to the terms containing x^6. **(08 Marks)**

b. If $u = \text{cosec}^{-1}\left(\frac{x^{\frac{1}{2}} + y^{\frac{1}{2}}}{x^{\frac{1}{3}} + y^{\frac{1}{3}}}\right)$, prove that $xu_x + yu_y = -\frac{1}{6}\tan u$. **(06 Marks)**

c. Find $\frac{\partial(u,v,w)}{\partial(x,y,z)}$ where $u = x+y+z$, $v = y+z$, $w = z$. **(06 Marks)**

Module-3

5 a. Obtain a reduction formula for $\int_0^{\pi/2} \sin^n x\,dx$, $(n > 0)$. **(08 Marks)**

b. Evaluate $\int_0^{2a} x^2\sqrt{2ax - x^2}\,dx$. **(06 Marks)**

c. Evaluate $\int_0^1 \int_x^{\sqrt{x}} xy\,dy\,dx$ **(06 Marks)**

OR

6 a. Evaluate $\int_0^a \int_0^x \int_0^{x+y} e^{x+y+z} dz dy dx$. **(08 Marks)**

b. Evaluate $\int_0^\infty \frac{x^6}{(1+x^2)^{9/2}} dx$. **(06 Marks)**

c. Evaluate $\iint_A xy dx dy$ where A is the area bounded by the circle $x^2 + y^2 = a^2$ in the first quadrant. **(06 Marks)**

Module-4

7 a. A particle moves along the curve $\vec{r} = \cos 2t\,\hat{i} + \sin 2t\,\hat{j} + t\hat{k}$. Find the components of velocity and acceleration at $t = \frac{\pi}{8}$ along $\sqrt{2}\,\hat{i} + \sqrt{2}\,\hat{j} + \hat{k}$. **(08 Marks)**

b. Find divergence and curl of the vector $\vec{F} = (xyz + y^2z)\hat{i} + (3x^2 + y^2z)\hat{j} + (xz^2 - y^2z)\hat{k}$. **(06 Marks)**

c. Find the directional derivative of $\phi = x^2yz^3$ at (1, 1, 1) in the direction of $\hat{i} + \hat{j} + 2\hat{k}$. **(06 Marks)**

OR

8 a. Find the angle between the tangents to the curve $x = t^2$, $y = t^3$, $z = t^4$ at $t = 2$ and $t = 3$. **(08 Marks)**

b. Find curl(curl $\vec{A}$) where $\vec{A} = xy\,\hat{i} + y^2z\,\hat{j} + z^2y\,\hat{k}$. **(06 Marks)**

c. Find the constants a, b, c such that the vector field $(\sin y + az)\hat{i} + (bx\cos y + z)\hat{j} + (x + cy)\hat{k}$ is irrotational. **(06 Marks)**

Module-5

9 a. Solve $\frac{dy}{dx} = \frac{y}{x} + \sin\left(\frac{y}{x}\right)$. **(08 Marks)**

b. Solve $\frac{dy}{dx} + y\cot x = \sin x$. **(06 Marks)**

c. Solve $\frac{dy}{dx} + \frac{y}{x} = y^2x$. **(06 Marks)**

OR

10 a. Solve $x^2ydx - (x^3 + y^3)dy = 0$. **(08 Marks)**

b. Solve $x^2\frac{dy}{dx} = 3x^2 - 2xy + 1$. **(06 Marks)**

c. Solve $\left[y\left(1 + \frac{1}{x}\right) + \cos y\right]dx + [x + \log x - x\sin y]dy = 0$. **(06 Marks)**

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CBCS SCHEME

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17CPH39/49

Question Paper Version : A

Third/Fourth Semester B.E. Degree Examination, June/July 2019
Constitution of India, Professional Ethics & Human Rights
(COMMON TO ALL BRANCHES)

Time: 2 hrs.] [Max. Marks: 30

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the thirty questions, each question carries **ONE mark.**
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. The members of the Constituent Assembly which drafted the constitution of India were,
   a) Nominated by the British parliament
   b) Nominated by the Governor General
   c) Elected by the Legislative Assemblies of various provinces
   d) Elected by the Indian National Congress and Muslim league.

2. Which one of the following determines that the Indian constitution is federal?
   a) A written and rigid constitution
   b) An independent judiciary
   c) Vesting of residuary powers with the centre
   d) Distribution of powers between the centre and the state.

3. The Indian parliamentary system is different from the British parliamentary system in which of the following respects?
   a) Both a real and a nominal executive
   b) A system of collective responsibility
   c) Bicameral legislature
   d) A different judicial review

4. Which one of the following objectives is not embodied in the Preamble to the Constitution of India?
   a) Liberty of thought
   b) Economic liberty
   c) Liberty of expression
   d) Liberty of belief

5. The mind of the makers of the Constitution of India is reflected in which of the following?
   a) The Preamble
   b) The Fundamental Rights
   c) The Directive Principles of State policy
   d) The fundamental duties.

6. Which one of the following rights was described by Dr. B.R. Ambedkar as the heart and soul of the Constitution?
   a) Right to freedom of religion
   b) Right to property
   c) Right to equality
   d) Right to constitutional remedies.

7. The 9th schedule to the Indian Constitution was added by;
   a) 1st Amendment
   b) 8th Amendment
   c) 9th Amendment
   d) 42nd Amendment

8. Which one of the following Articles of the directive principles of state policy deals with the promotion of international peace and security?
   a) 51
   b) 48A
   c) 43A
   d) 41

9. The ideal of 'Welfare state' in the Indian Constitution is enshrined in its ;
   a) Preamble
   b) Directive Principles of State Policy
   c) Fundamental rights
   d) 7th Schedule

10. For a citizen of India, the duty to pay taxes is a ;
   a) Fundamental duty
   b) Legal obligation
   c) Constitutional obligation
   d) Moral obligation

11. Which of the following statements regarding the pardoning Powers of the President is incorrect?
   a) Pardoning power of the president is restricted.
   b) President can completely pardon any sentence
   c) The power to pardon is the discretionary power of President
   d) None of these.

12. Which one of the following is responsible for the preparation and presentation of union budget of the parliament?
   a) Department of Revenue
   b) Department of Economic Affairs
   c) Department of Expenditure
   d) None of these

13. Which of the following statement is incorrect regarding budget?
   a) The term 'Budget' is not explicitly stated in Indian Constitution
   b) The Budget can be introduced in Lok Sabha only
   c) The introduction of budget required recommendation of the President
   d) The Budget is passed like an ordinary bill in the parliament.

14. The power of the Supreme Court of India to decide disputes between the Centre and the States falls under its;
a) Advisory jurisdiction
b) Appellate jurisdiction
c) Original jurisdiction
d) Constitutional jurisdiction

15. The power to increase the number of judges in the Supreme Court of India is vested in;
a) The President of India
b) The Parliament
c) The Chief Justice of India
d) The Law Commission.

16. There is a Parliamentary System of Government in India because the
a) Lok Sabha is elected directly by the people
b) Parliament can amend the Constitution
c) Rajya Sabha cannot be dissolved
d) Council of Ministers is responsible to the Lok Sabha

17. Appointment, posting and promotion of district judge in a state are made by the
a) Governor in consultation with the High Court
b) Chief Justice of the High Court of that state in consultation with the Governor
c) President in consultation with the High Court
d) President in consultation with the Governor and the High Court.

18. Notifications in respect of by-elections to the Lok Sabha are issued by the
a) Election commission
b) Speaker of Lok Sabha
c) The Whip
d) No notification is required for by-election.

19. With reference to 'None of the Above (NOTA)' option on electronic voting machines and ballot papers, consider the following statements :
I) The Citizens of India have the right to negative vote by exercising the 'None of the Above' option in EVMs and ballot papers.
II) If NOTA gets the highest votes is an election, then the election is conducted again.
a) I only
b) I and II
c) II only
d) None of these

20. With reference to 73rd Amendment Act of the constitution, a Grama Sabha is a body consisting of
a) All the adult population of the Village under the Panchayat
b) The whole population of the villages under the Panchayat other than children less than five years of age.
c) The registered voters of the villages under the Panchayat
d) None of the above.

21. Which of the following is not taken as the aim of engineering ethics?
a) Moral imagination
b) Recognition of ethical issues
c) Sense of responsibility
d) Shifting of responsibility

22. Which of the following is not a concept of responsibility?
a) Minimalist
b) Maximalist
c) Reasonable care
d) Good works

23. Corrupt Professional Judgment leads to
a) Integrity in R&D
b) Reliability
c) Conflict of interest
d) None of these

24. The formulate of a soft drink is an example of
a) Copy Right
b) Trade Secret
c) Patent
d) Trade Marks

25. It is not a kind of trademark:
a) Designs
b) Sounds
c) Symbols
d) Good will

26. These are not trade secrets
a) Formulas
b) Principles
c) Devices
d) None of these

27. Stealing of intellectual property means
a) Cooking
b) Forging
c) Plagiarism
d) Symbols

28. Cooking means
a) Boiling under pressure
b) Making deceptive statements
c) Retaining results with fit the theory
d) Misleading the public about the quality of a product.

29. This is not dishonesty in engineering
a) Forging
b) Blending
c) Trimming
d) Cooking

30. One of the ways of reducing the risk is
a) Complex interaction
b) Tight coupling
c) Normalization of deviance
d) Changing the working system.

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CBCS SCHEME

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17KKM39/49

Question Paper Version : D

Third/Fourth Semester B.E. Degree Examination, June/July 2019

ಕನ್ನಡ ಮನಸು

(COMMON TO ALL BRANCHES)

Time: 2 hrs.] [Max. Marks: 30

ಸೂಚನೆಗಳು

1. ಎಲ್ಲ ೩೦ ಪ್ರಶ್ನೆಗಳಿಗೂ ಉತ್ತರಿಸಿರಿ. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೆ ಒಂದು ಅಂಕ.
2. ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಯು.ಎಸ್.ಎನ್ ಸಂಖ್ಯೆ ಹಾಗೂ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಶ್ರೇಣಿಯನ್ನು ಅಂದರೆ A, B, C ಅಥವಾ D ಯನ್ನು ತಪ್ಪಿಲ್ಲದಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಗುರುತಿಸುವುದು ಅಭ್ಯರ್ಥಿಯ ಜವಾಬ್ದಾರಿಯಾಗಿರುತ್ತದೆ.
3. ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ನಿಗದಿಪಡಿಸಿರುವ ಸ್ಥಳದಲ್ಲಿ ಭರ್ತಿಮಾಡದೆ ಹಾಗೆಯೇ ಬಿಟ್ಟಲ್ಲಿ ಅಥವಾ ಭರ್ತಿಮಾಡಿದ ಮಾಹಿತಿಯಲ್ಲಿ ಯಾವುದೇ ವ್ಯತ್ಯಾಸವಿದ್ದಲ್ಲಿ ಅಂತಹ ಉತ್ತರ ಪತ್ರಿಕೆಗಳನ್ನು ರದ್ದು ಪಡಿಸಲಾಗುವುದು.
4. ಕೇಷಲ ಒಂದು ಉತ್ತರವನ್ನು ಮಾತ್ರ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಗುರುತಿಸತಕ್ಕದ್ದು. ಒಂದೆ ಪ್ರಶ್ನೆಗೆ ಎರಡು ಉತ್ತರವನ್ನು ಗುರುತಿಸುವುದು ಅಮಾನ್ಯ.
5. ಎಲ್ಲಾ ಉತ್ತರಗಳನ್ನು ನಿಮಗೆ ಒದಗಿಸಲಾದ ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯ ಹಾಳೆಯ ಮೇಲೆ ಕಪ್ಪು ಅಥವಾ ನೀಲಿ ಶಾಹಿಯ ಬಾಲ್‌ಪಾಯಿಂಟ್ ಪೆನ್ನಿನಿಂದ ಗುರುತು ಮಾಡಬೇಕು.

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1. ವಿಶ್ವಾಮಿತ್ರ ತ್ರಿಶಂಕುವಿಗಾಗಿ ಇದನ್ನು ನಿರ್ಮಿಸಿದನೆಂದು ಗೊರೂರರು ಹೇಳಿದ್ದಾರೆ.
   ಅ) ಪಾಕಿಸ್ತಾನ ಬ) ಎಮ್ಮೆ ಕ) ಈಚಲು ಮರ ಡ) ತ್ರಿಶಂಕು ಸ್ವರ್ಗ.

2. "ಮಹಿಷ ಮಂಡಲ" ಎಂದರೆ
   ಅ) ಆಂಧ್ರ ಪ್ರದೇಶ ಬ) ನಭೋಮಂಡಲ ಕ) ಮೈಸೂರು ಡ) ಚಿತ್ರದುರ್ಗ.

3. ಬಿ.ಜಿ. ಎಲ್ ಸ್ವಾಮಿಯವರಿಗೆ ಕೇಂದ್ರ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಪ್ರಶಸ್ತಿ ತಂದುಕೊಟ್ಟ ಕೃತಿ
   ಅ) ಕಾಲೇಜು ರಂಗ ಬ) ಹಸಿರು ಹೊನ್ನು ಕ) ನಾಕುತಂತಿ ಡ) ಅದಿರಂಗ ಪುರಾಣ.

4. ಅಗೋ ಚೆಲುವಿನ ರಾಣಿ ಬಂದಳು ಹೀಗೆ ಕೂಗಿದ ಬೆಡ್

ಅ) ನಾಲ್ಕನೇ ಬ) ಐದನೇ ಕ) ಆರನೇ ಡ) ಏಳನೇ.

5. ಗೊರೂರರ ಪ್ರಕಾರ ಕಲಿಯುಗದಲ್ಲಿ ಬೇಕಾಗಿರುವ ಗುಣ

ಅ) ಕೆಂಪುಗುಣ ಬ) ಸಾತ್ವಿಕ ಗುಣ ಕ) ತಾಮಸ ಗುಣ ಡ) ರಾಜಸಗುಣ.

6. ನೇಣುಗಂಬವ ಕೂಡ ದಿಕ್ಕರಿಸಿ ನುಗ್ಗುವರು - ಇದು ಯಾವ ಕವನದ ಸಾಲು

ಅ) ರೋಟ್ಟಿ ಮತ್ತು ಕೋವಿ ಬ) ಶ್ರಾವಣ ಕ) ಬೆಲ್ಚೀಯ ಹಾಡು ಡ) ಬೇಂದ್ರೆ ಕವನ.

7. ಕಜ್ಜ - ಇದರ ತತ್ಸಮ ರೂಪ

ಅ) ಕಾಯ ಬ) ಕಾವ್ಯ ಕ) ಕರ್ತೃ ಡ) ಕಾರ್ಯ.

8. ಕತ್ತಿಮಸೆ - ಇದು

ಅ) ಜೋಡಿಪದ ಬ) ಸಂಬಂದಿತ ಪದಗುಂಪು ಕ) ನುಡಿಗಟ್ಟು ಡ) ದ್ವಿರುಕ್ತಿ ಪದ.

9. "ಅಟ್ಟಕ್ಕೇರಿಸು" - ಈ ನುಡಿಗಟ್ಟಿನ ವಿಶೇಷಾರ್ಥ

ಅ) ಮೇಲೆಹತ್ತು ಬ) ಹೊಗಳು ಕ) ಅಟ್ಟಕ್ಕೇ ಹೇರಲು ಸಹಕರಿಸು ಡ) ಮೇಲಕ್ಕೇ ಹತ್ತಿಸಬೇಕು.

10. ನೋಡಿದಳು - ಇದರ ನೆಷೇದಾರ್ಥ

ಅ) ನೋಡಳು ಬ) ನೋಡುತ್ತಿದ್ದಳು ಕ) ನೋಡಿದ್ದಳು ಡ) ನೋಡುತ್ತಾಳೆ.

11. ಕಲಿಭೀಮನೆ - ಇದರ ವಿಭಕ್ತಿ

ಅ) ಚತುರ್ಥಿ ಬ) ದ್ವಿತೀಯಾ ಕ) ಸಂಭೋಧಾನಾ ಡ) ಸಪ್ತಮಿ .

12. ಮೂಡಣ - ವಿರುದ್ಧ ಪದ

ಅ) ಪಡುವಣ ಬ) ತೆಂಕಣ ಕ) ಬಡಗಣ ಡ) ಮೂಡಣ

13. ದ.ರಾ.ಬೇಂದ್ರೆಯವರ ಕಾವ್ಯನಾಮ

ಅ) ಅಂಬಿಕಾತನಯ ದತ್ತ ಬ) ವಿನಾಯಕ ಕ) ಆನಂದಕಂದ ಡ) ಕಡತೀರದ ಭಾರ್ಗವ

14. ಹೊಳೆಗೆ ಮತ್ತು ಮಳಿಗೆ ಆಗ್ಯೆದ ಲಗ್ನ ಇದು ಯಾವ ಕವನದ ಸಾಲು

ಅ) ರೋಟ್ಟಿ ಮತ್ತು ಕೋವಿ ಬ) ಬೆಲ್ಚೀಯ ಹಾಡು ಕ) ಶ್ರಾವಣ ಡ) ಎಲ್ಲಾ ಹುಡುಗಿಯರ ಕನಸು

15. ಭಗವಂತ ಮಾನವರಿಗೆ ಕಾಣಿಸಿಕೊಂಡರೆ ಮೊದಲು ಅನ್ನದ ರೂಪದಲ್ಲಿ ಕಾಣಿಸಿಕೊಳ್ಳಬೇಕು ಎಂದು ಹೇಳಿದವರು.

ಅ) ವಿಶ್ವೇಶ್ವರಯ್ಯ ಬ) ಕುವೆಂಪು ಕ) ಲಾ.ಬ. ಶಾಸ್ತ್ರಿ ಡ) ಗಾಂಧೀಜಿ

16. ಹಿಂದುಳಿದ ವರ್ಗಗಳಿಗೆ ಸರಕಾರಿ ಕೆಲಸಗಳಲ್ಲಿ ಮೀಸಲಾತಿ ನೀಡಲು ನಾಲ್ವಡಿ ಕೃಷ್ಣರಾಜ ಒಡೆಯರು ರಚಿಸಿದ ಆಯೋಗ

ಅ) ಹಾವನೂರು ಆಯೋಗ ಬ) ವೆಂಕಟಸ್ವಾಮಿ ಆಯೋಗ

ಕ) ನಾಲ್ವಡಿ ಆಯೋಗ ಡ) ಮಿಲ್ಲರ್ ಆಯೋಗ

17. ಶಿವರಾಮ ಕಾರಂತರಿಗೆ ಜ್ಞಾನಪೀಠ ಪ್ರಶಸ್ತಿ ತಂದುಕೊಟ್ಟ ಕೃತಿ

ಅ) ಚೋಮನ ದುಡಿ ಬ) ಮರಳಿ ಮಣ್ಣಿಗೆ

ಕ) ಮೂಕಜ್ಜಿಯ ಕನಸುಗಳು ಡ) ಹುಚ್ಚ ಮನಸಿನ ಹತ್ತು ಮುಖಗಳು

18. ಕುವೆಂಪುರವರು ಅಣ್ಣಪ್ಪನನ್ನು ಹೀಗೆಂದಿದ್ದಾರೆ

ಅ) ಹಾಸ್ಯಗಾರ ಬ) ನಗೆಗಾರ ಕ) ಗೇಣಿದಾರ ಡ) ಕೂಲಿಕಾರ

19. ಪಿ. ಲಂಕೇಶರ ಈ ಕೃತಿಗೆ ಕೇಂದ್ರ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಪ್ರಶಸ್ತಿ ಬಂದಿದೆ.

ಅ) ಗುಣಮುಖ ಬ) ಸಂಕ್ರಾಂತಿ ಕ) ಕಲ್ಲು ಕರಗುವ ಸಮಯ ಡ) ಹುಳಿನೆನಪು.

20. ಎಲ್ಲಾರಂಥವನಲ್ಲ ನನ್ನಗಂಡ – ಎಂದು ಹಾಡಿದ ಸಂತ

ಅ) ಅಕ್ಕಮಹಾದೇವಿ ಬ) ಶಿಶುನಾಳ ಶರೀಫ ಕ) ಬಸವಣ್ಣ ಡ) ಸರ್ವಜ್ಞ.

21. ಪರಿಸರದ ಕತೆಯ ಲೇಖಕರು
ಅ) ಬಿ.ಜಿ. ಎಲ್ ಸ್ವಾಮಿ ಬ) ಕುವೆಂಪು ಬೇಂದ್ರೆ ಕ) ಬೇಂದ್ರೆ ಡ) ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ

22. "ಗಾಂಧಿ" ಕಥೆಗಾರ
ಅ) ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ ಬ) ಪಿ. ಲಂಕೇಶ ಕ) ಯೂ. ಆರ್. ಅನಮತಮೂರ್ತಿ ಡ) ಕುವೆಂಪು

23. ಸಾವಿರಾರು ನದಿಗಳು ಕವನ ಸಂಕಲದ ಕವಿ
ಅ) ಸು. ರಂ. ಎಕ್ಕುಂಡಿ ಬ) ಕೆ.ಎಸ್. ನಿಸಾರ್ ಅಹಮದ್ ಕ) ಸಿದ್ದಲಿಂಗಯ್ಯ ಡ) ಬೇಂದ್ರೆ.

24. ವಿಶ್ವಾಮಿತ್ರನನ್ನು ಗೊರೂರು ಹೀಗೆಂದು ಕರೆದಿದ್ದಾರೆ.
ಅ) ಕ್ರಾಂತಿಕಾರ ಬ)ಸೃಷ್ಟಿಕಾರ ಕ) ಸಮಗಾರ ಡ) ಯವೂದೂ ಅಲ್ಲ.

25. "ನೀರು" ಕಥೆ ಈ ನದಿ ವಿವಾದದ ಬಗ್ಗೆ ಅರಿವೂ ಮಾಡಿಸುತ್ತದೆ.
ಅ)ಮಹಾದಾಯಿ ಬ) ಭೀಮ ಕ) ಕಾವೇರಿ ಡ) ನೇತ್ತಾವತಿ.

26. ಮೈಸೂರೂ ರಾಜ್ಯಕ್ಕೆ ಕರ್ನಾಟಕ ಎಂದು ನಾಮಕರಣ ಮಾಡಿದ ವರ್ಷ
ಅ)1956 ಬ) 1971 ಕ) 1975 ಡ) 1973.

27. ಮೆಲ್ಲಮೆಲ್ಲನೆ - ಇದು
ಅ)ದ್ವಿರುಕ್ತಿ ಬ)ಜೋಡುನುಡಿ ಕ) ಅನುಕರಣ ಅವ್ಯಯ ಡ) ಯಾವುದು ಅಲ್ಲ

28. "ಮಕ್ಕಳು ಮರಿ" - ಇದು
ಅ) ದ್ವಿರುಕ್ತಿ ಬ) ಪ್ರತ್ಯಯ ರೂಪ ಕ) ಜೋಡುನುಡಿ ಡ) ಅನುಕರಣ ಪದ

29. ಗಳಗಳನೆ - ಇದು
ಅ) ಅನುದರಣ ಅವ್ಯಯ ಬ) ದ್ವಿರುಕ್ತಿ ಕ)ಜೋಡುನುಡೆ ಪದ ಡ) ಸಂಭಾಂಧ ವಾಚದ ಪದ

30. ಆಕಾಶ - ಇದರ ತತ್ಭವ ರೂಪ
ಅ) ಆಗಸ ಬ) ಅಗಸ ಕ) ಆಕಾಶ ಡ) ಆಗಾಸ.

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CBCS SCHEME

17KKK39/49

USN | | | | | | | | | | |

Question Paper Version : A

Third/Fourth Semester B.E. Degree Examination, June/July 2019
Kannada Kali
(COMMON TO ALL BRANCHES)

Time: 2 hrs.] [Max. Marks: 30

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the thirty questions, each question carries **ONE mark**.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, use of whiteners** on the **OMR** sheets is strictly prohibited.

Note : Fill in the blank by translating the given English word to Kannada.
[From Question No : 1 to 5]

1. Country: _____
   a) Desha b) Vesha c) Rajya d) Taluk

2. Girl: _____
   a) Huduga b) Ganda c) Hudugi d) Badagi

3. Mother: _____
   a) Tande b) Tayi c) Magalu d) Hendati

4. Circular: _____
   a) Chowka b) Aayatha c) Vrittakara d) Udda

5. Gold: _____
   a) Chinna b) Belli c) Vajra d) Havala

Note : Substitute the words from the following each sentence in appropriate place. [From Q No. 6 to 8]

6. Doctor Aushadi _____ (kodu)
a) Heltare b) Kottaru c) Sigtare d) Kelu

7. Leela ivattu bengalurige _____ (Hogu)
a) Hoguttane b) Hoguttale c) ide d) Howdu

8. TV _____ tale novu baruttade. (Nodu)
a) Odidare b) Kelidre c) Nodidre d) Idre

Note : Write the English word for given Kannada word. [From Q No. 9 to 12]

9. Vayasu: _____
a) Year b) Month c) Week d) Age

10. Tarakari: _____
a) Fresh b) Lemon c) Vegetable d) Potato

11. Gottu: _____
a)Know b) Like c) Dark d) Cold

12. Adigemane: _____
a) Bath room b) Kitchen c) Street d) Hall

Note : Fill in the blank choosing the right word from the group below :

13. Neevu Hege _____?
a) Iddare b) Iddiri c) Iddale d) Iddi

Note : Translate the following Kannada question into English. [from question No. 14 to 15]

14. Aa Pustaka olleyadu.
a) Which book is good? b) That book is good.
c) My book is good. d) Her book is bad.

15. Naanu beligge Edde.
a) I got up late.
b) I got up in the morning.
c) I like sleeping.
d) He woke up late.

Note : Translate the following English words to Kannada [from Q No. 16 to 20]

16. Curd: _____
a) Majjige b) Anna c) Sambar d) Mosaru

17. Grass: _____
a) Hullu b) Hallu c) Bellu d) Mullu

18. To laugh: _____
a) Hogu b) Nagu c) Bidu d) Magu

19. Hot water: _____
a) Tanneru b) Bella c) Bisi neeru d) Hasiru

20. Lesson: _____
a) Paata b) Nota c) Parisara d) Jagala

Note : Translate the Kannada word into English. [From Q No. 21 to 30]

21. Maralu: _____
a) Land b) Sand c) People d) Bank

22. Samparka: _____
a) Run b) Father c) Contact d) Doubt

23. Hatti: _____
a) Cotton b) Bread c) Jar d) King

24. Parisara: _____
a) Daily b) Class c) Duty d) Environment

25. Tota: ________
a) Tall b) Strong c) Garden d) Like

26. Jwara: ________
a) Meal b) Fever c) Gruel d) Month

27. Raita: ________
a) Thieves b) Grass c) Farmer d) Field

28. Kaanu: ________
a) To see b) To ask c) To keep d) To play

29. Roodhi: ________
a) Teeth b) Practise c) Hot water d) Learn

30. Paata: ________
a) Tour b) Lesson c) Poor d) Happy

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