

# CBCS SCHEME

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17MAT31

## Third Semester B.E. Degree Examination, Dec.2019/Jan.2020 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. Find the Fourier series expansion of  $f(x) = x - x^2$  in  $(-\pi, \pi)$ , hence deduce that  $\frac{\pi^2}{12} = \frac{1}{1^2} - \frac{1}{2^2} + \frac{1}{3^2} - \frac{1}{4^2} + \dots$ . (08 Marks)
- b. Find the half range cosine series for the function  $f(x) = (x - 1)^2$  in  $0 \leq x \leq 1$ . (06 Marks)
- c. Express  $y$  as a Fourier series upto first harmonics given :

x	0	60°	120°	180°	240°	300°
y	7.9	7.2	3.6	0.5	0.9	6.8

(06 Marks)

OR

- 2 a. Obtain the Fourier series for the function :

$$f(x) = \begin{cases} 1 + \frac{4x}{3} & \text{in } -\frac{3}{2} < x \leq 0 \\ 1 - \frac{4x}{3} & \text{in } 0 \leq x < \frac{3}{2} \end{cases}$$

Hence deduce that  $\frac{\pi^2}{8} = \frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \dots$ .

(08 Marks)

b. If  $f(x) = \begin{cases} x & \text{in } 0 < x < \frac{\pi}{2} \\ \pi - x & \text{in } \frac{\pi}{2} < x < \pi \end{cases}$

Show that the half range sine series as

$$f(x) = \frac{4}{\pi} \left[ \sin x - \frac{\sin 3x}{3^2} + \frac{\sin 5x}{5^2} - \dots \right]$$

(06 Marks)

- c. Obtain the Fourier series upto first harmonics given :

x	0	1	2	3	4	5	6
y	9	18	24	28	26	20	9

(06 Marks)

### Module-2

- 3 a. Find the complex Fourier transform of the function :

$$f(x) = \begin{cases} 1 & \text{for } |x| \leq a \\ 0 & \text{for } |x| > a \end{cases} \quad \text{and hence evaluate } \int_0^{\infty} \frac{\sin x}{x} dx .$$

(08 Marks)

- b. Find the Fourier cosine transform of  $e^{-ax}$ .

(06 Marks)

- c. Solve by using  $z$  - transforms  $u_{n+2} - 4u_n = 0$  given that  $u_0 = 0$  and  $u_1 = 2$ .

(06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 4 a. Find the Fourier sine and Cosine transforms of :

$$f(x) = \begin{cases} x & 0 < x < 2 \\ 0 & \text{elsewhere} \end{cases}$$

(08 Marks)

- b. Find the Z – transform of : i)
- $n^2$
- ii)
- $ne^{-an}$
- .

(06 Marks)

- c. Obtain the inverse Z – transform of
- $\frac{2z^2 + 3z}{(z+2)(z-4)}$
- .

(06 Marks)

Module-3

- 5 a. Obtain the lines of regression and hence find the co-efficient of correlation for the data :

x	1	3	4	2	5	8	9	10	13	15
y	8	6	10	8	12	16	16	10	32	32

(08 Marks)

- b. Fit a parabola
- $y = ax^2 + bx + c$
- in the least square sense for the data :

x	1	2	3	4	5
y	10	12	13	16	19

(06 Marks)

- c. Find the root of the equation
- $xe^x - \cos x = 0$
- by Regula – Falsi method correct to three decimal places in (0, 1).

(06 Marks)

OR

- 6 a. If
- $8x - 10y + 66 = 0$
- and
- $40x - 18y = 214$
- are the two regression lines, find the mean of x's, mean of y's and the co-efficient of correlation. Find
- $\sigma_y$
- if
- $\sigma_x = 3$
- .

(08 Marks)

- b. Fit an exponential curve of the form
- $y = ae^{bx}$
- by the method of least squares for the data :

No. of petals	5	6	7	8	9	10
No. of flowers	133	55	23	7	2	2

(06 Marks)

- c. Using Newton–Raphson method, find the root that lies near
- $x = 4.5$
- of the equation
- $\tan x = x$
- correct to four decimal places.

(06 Marks)

Module-4

- 7 a. From the following table find the number of students who have obtained marks :
- 
- i) less than 45 ii) between 40 and 45.

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

(06 Marks)

- b. Using Newton's divided difference formula construct an interpolating polynomial for the following data :

x	4	5	7	10	11	13
f(x)	48	100	294	900	1210	2028

and hence find  $f(8)$ .

(08 Marks)

- c. Evaluate
- $\int_0^1 \frac{dx}{1+x}$
- taking seven ordinates by applying Simpson's
- $\frac{3}{8}$
- <sup>th</sup>
- rule.

(06 Marks)



OR

- 8 a. In a table given below, the values of  $y$  are consecutive terms of a series of which 23.6 is the 6<sup>th</sup> term. Find the first and tenth terms of the series by Newton's formulas.

x	3	4	5	6	7	8	9
y	4.8	8.4	14.5	23.6	36.2	52.8	73.9

- b. Fit an interpolating polynomial of the form  $x = f(y)$  for data and hence find  $x(5)$  given : (08 Marks)

x	2	10	17
y	1	3	4

- c. Use Simpson's  $\frac{1}{3}$ <sup>rd</sup> rule to find  $\int_0^{0.6} e^{-x^2} dx$  by taking 6 sub-intervals. (06 Marks)

**Module-5**

- 9 a. Verify Green's theorem in the plane for  $\oint_C (3x^2 - 8y^2)dx + (4y - 6xy)dy$  where  $C$  is the closed curve bounded by  $y = \sqrt{x}$  and  $y = x^2$ . (08 Marks)
- b. Evaluate  $\int_C xy dx + xy^2 dy$  by Stoke's theorem where  $C$  is the square in the  $x - y$  plane with vertices  $(1, 0)(-1, 0)(0, 1)(0, -1)$ . (06 Marks)
- c. Prove that Catenary is the curve which when rotated about a line generates a surface of minimum area. (06 Marks)

OR

- 10 a. If  $\vec{F} = 2xy \hat{i} + yz^2 \hat{j} + xz \hat{k}$  and  $S$  is the rectangular parallelepiped bounded by  $x = 0, y = 0, z = 0, x = 2, y = 1, z = 3$  evaluate  $\iint_S \vec{F} \cdot \hat{n} ds$ . (08 Marks)
- b. Derive Euler's equation in the standard form viz  $\frac{\partial f}{\partial y} - \frac{d}{dx} \left[ \frac{\partial f}{\partial y'} \right] = 0$ . (06 Marks)
- c. Find the external of the functional  $I = \int_0^{\pi/2} (y^2 - y^{12} - 2y \sin x) dx$  under the end conditions  $y(0) = y(\pi/2) = 0$ . (06 Marks)

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17EE32

## Third Semester B.E. Degree Examination, Dec.2019/Jan.2020 Electric Circuit Analysis

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Derive the expression for Delta-star transformation. (06 Marks)  
 b. Using source transformation, find the power delivered by 50V source shown in Fig.Q.1(b). (06 Marks)

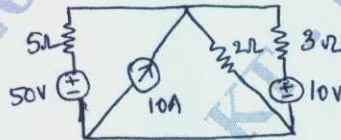


Fig.Q.1(b)

- c. Find the voltage across a 20Ω resistor in the network shown in Fig.Q.1(c). (08 Marks)

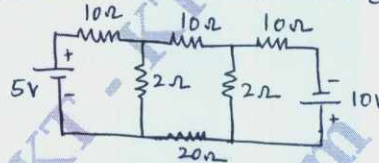


Fig.Q.1(c)

OR

- 2 a. Determine the equivalent resistance between the terminals AB for the network shown in Fig.Q.2(a). (06 Marks)



Fig.Q.2(a)

- b. Find the node voltages  $V_1$ ,  $V_2$  and  $V_3$  in the circuit shown in Fig.Q.2(b) using nodal analysis. (08 Marks)

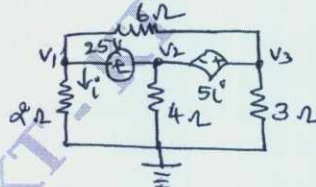


Fig.Q.2(b)

- c. Draw the dual of the network shown in Fig.Q.2(c). (06 Marks)

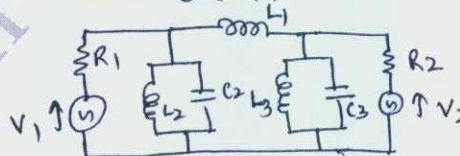


Fig.Q.2(c)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and/or equations written eg,  $42+8=50$ , will be treated as malpractice.

**Module-2**

- 3 a. State and explain superposition theorem. (06 Marks)  
 b. For the circuit shown in Fig.Q.3(b) obtain Thevinin's equivalent circuit as seen from terminals p-q. (08 Marks)

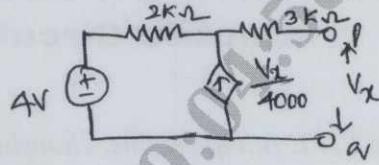


Fig.Q.3(b)

- c. Find the voltage 'V<sub>x</sub>' and apply reciprocity theorem to the networks shown in Fig.Q.3(c). (06 Marks)

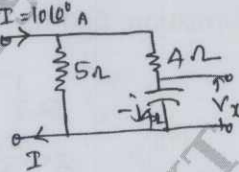


Fig.Q.3(c)

OR

- 4 a. State and explain Norton's theorem. (06 Marks)  
 b. Find the current I<sub>a</sub> in the circuit shown in Fig.Q.4(b) by applying superposition theorem. (08 Marks)

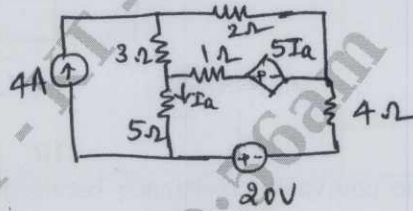


Fig.Q.4(b)

- c. Find the current through 16Ω resistance using Norton's theorem for Fig.Q.4(c) (06 Marks)

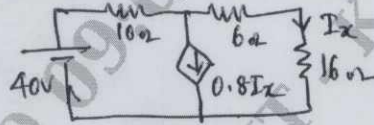


Fig.Q.4(c)

**Module-3**

- 5 a. Show that in series resonant circuit the resonant frequency is equal to the geometric mean of half power frequencies. (06 Marks)  
 b. A circuit shown in Fig.Q.5(b), the switch 'K' is changed from position 1 to 2 at t = 0. The steady state having reached before closing the switch. Find the values of  $i(t)$ ,  $\frac{di(t)}{dt}$  and  $\frac{d^2i(t)}{dt^2}$  at t = 0<sup>+</sup> (08 Marks)

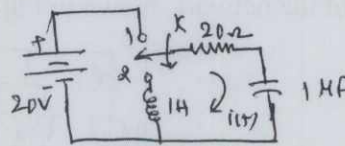


Fig.Q.5(b)

- c. A series RLC circuit has R = 2Ω, L = 2mH and C = 10μF. Calculate Q factor, bandwidth, resonant frequency and half power frequencies. (06 Marks)



OR

- 6 a. Show that a parallel resonant circuit will resonate for all frequencies when  $R_L = R_C = \sqrt{\frac{L}{C}}$ ? (06 Marks)
- b. In the circuit shown in Fig.Q.6(b) initially switch 'K' is kept open for long time. At  $t = 0$ , switch K is closed. Obtain the expression for current in the circuit for  $t > 0$ .

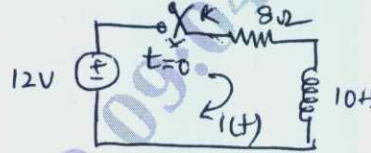


Fig.Q.6(b)

(06 Marks)

- c. Find the value of  $R_1$  such that the circuit shown in Fig.Q.6(c) is resonant.

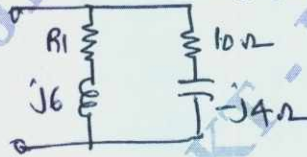


Fig.Q.6(c)

(08 Marks)

**Module-4**

- 7 a. Find the inverse Laplace transform of the following:  
 i)  $F(s) = \frac{s+2}{s(s+3)(s+4)}$       ii)  $F(s) = \frac{(s-2)}{s(s+1)^3}$  (06 Marks)
- b. State and prove initial value and final value theorem. (08 Marks)
- c. Obtain the Laplace transform of the gate function shown in Fig.Q.7(c) (06 Marks)

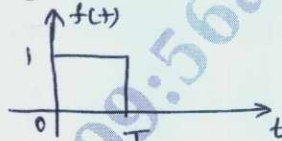


Fig.Q.7(c)

OR

- 8 a. Using Laplace transform determine the current in circuit shown in Fig.Q.8(a) when switch K is closed at  $t = 0$ . Assume zero initial condition. (06 Marks)

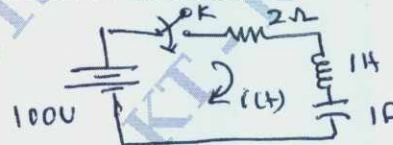


Fig.Q.8(a)

- b. Find the Laplace transform of periodic functions shown in Fig.Q.8(b) (08 Marks)

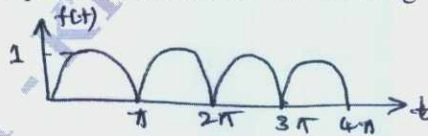


Fig.Q.8(b)

- c. Find initial value and final value of the following equations:  
 i)  $F(s) = \frac{s^3 + 7s^2 + 5}{s(s^3 + 3s^2 + 4s + 2)}$       ii)  $F(s) = \frac{s(s+4)(s+8)}{(s+1)(s+6)}$  (06 Marks)

**Module-5**

- 9 a. An unbalanced 3-phase, 4-wire star connected load has balanced voltages of 208V, with ABC phase sequence. Calculate the line currents and neutral current.  
 $Z_A = 10\Omega$ ;  $Z_B = 15\angle 30^\circ\Omega$ ;  $Z_C = 10\angle -30^\circ\Omega$  (06 Marks)
- b. Derive Z-parameters in terms of y and h-parameters. (08 Marks)
- c. Find Y-parameters for the network shown in Fig.Q.9(c) (06 Marks)

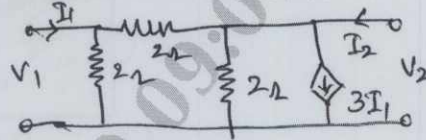


Fig.Q.9(c)

OR

- 10 a. Determine the line currents and total power supplied to a delta connected load of  $Z_{ab} = 10\angle 60^\circ\Omega$ ,  $Z_{bc} = 20\angle 90^\circ\Omega$ ,  $Z_{ca} = 25\angle 30^\circ\Omega$ . Assume 3-phase 400V, ABC sequence. (06 Marks)
- b. Determine the transmission parameters for the networks shown in Fig.Q.10(b).

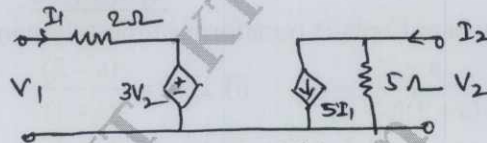


Fig.Q.10(b)

- c. Define Z-parameters and Y-parameters and write equivalent circuits. (06 Marks)

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17EE34

## Third Semester B.E. Degree Examination, June/July 2019 Analog Electronic Circuits

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

1. a. With a neat circuit diagram, explain Emitter stabilized bias circuit, write the necessary equation. (08 Marks)
- b. Determine output voltage for the following circuit in Fig.Q.(b). Assume  $f = 1000\text{Hz}$  and ideal diode. (06 Marks)

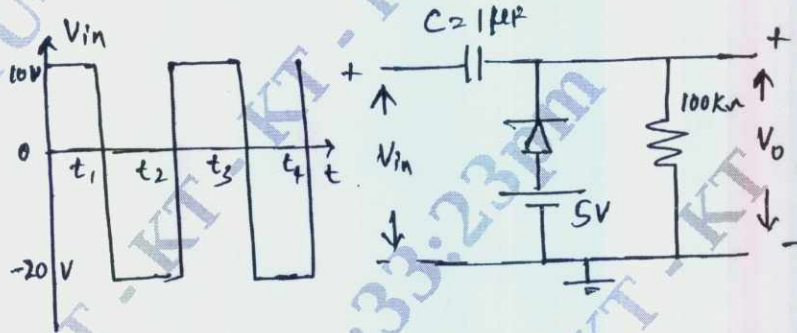


Fig.Q.1(b)

- c. Derive the expression for stability factors of fixed bias circuit with respect to  $I_{CO}$ ,  $V_{BE}$ ,  $\beta$  and draw the circuit diagram. (06 Marks)

OR

2. a. Explain the circuit of a transistor switch being used as an inverter. (06 Marks)
- b. Determine the voltage  $V_{CE}$  and the current  $I_C$  for the voltage divider configuration Given:  $R_1 = 39\text{K}\Omega$ ,  $R_2 = 3.9\text{K}\Omega$ ,  $R_C = 10\text{K}\Omega$ ,  $R_E = 1.5\text{K}\Omega$ ,  $C_E = 50\mu\text{F}$ ,  $B = 100$ ,  $V_{BE} = 0.7$ . (08 Marks)
- c. Sketch the output waveform for the network shown in Fig.Q.2(c). If the peak value of the a.c input is 15V and draw the transfer characteristics. (06 Marks)

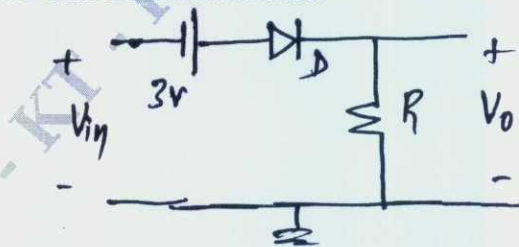


Fig.Q.2(c)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.



**Module-2**

- 3 a. With a neat circuit diagram, derive an expression for  $Z_i$ ,  $Z_o$  and  $A_v$  of fixed bias circuit using  $r_e$  - model. (08 Marks)
- b. For the Emitter follower network shown in Fig.Q.3(b). Determine  $r_e$ ,  $Z_i$ ,  $Z_o$  and  $A_v$ . (06 Marks)

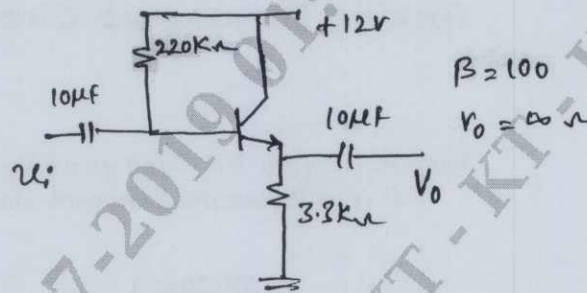


Fig.Q.3(b)

- c. Prove that Miller effect of input capacitance  $C_{Mi} = (1-A_v)C_f$  and output capacitance

$$C_{Mo} = \left(1 - \frac{1}{A_v}\right) C_f. \quad (06 \text{ Marks})$$

OR

- 4 a. For the following circuit determine  $Z_i$ ,  $Z_o$ ,  $A_v$ ,  $A_i$   $h_{fb} = -0.99$ ,  $h_{ib} = 14.3\Omega$ . (08 Marks)

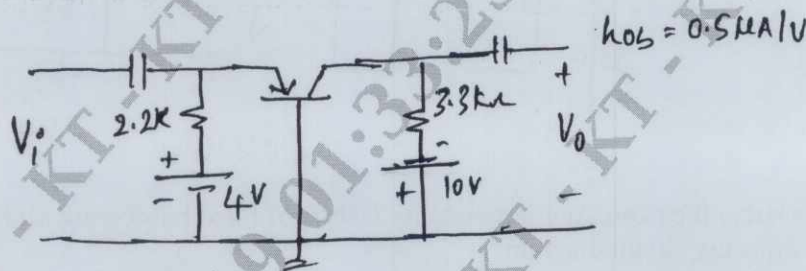


Fig.Q.4(a)

- b. What are the advantages of h-parameters? (06 Marks)
- c. Define h-parameters and obtain h-parameter equivalent circuit of CE configuration. (06 Marks)

**Module-3**

- 5 a. Obtain expression for voltage gain, current gain, input and output impedance of a Darlington Emitter follower circuit. Draw necessary equivalent circuit. (12 Marks)
- b. With a neat block diagram, obtain expression for  $Z_{if}$  and  $Z_{of}$  for voltage series feedback amplifier. (08 Marks)

OR

- 6 a. Explain the general characteristics of negative feedback amplifier. (08 Marks)
- b. Explain the need of cascading amplifier. A given amplifier arrangement has the following gains.  $A_{v1} = 10$ ,  $A_{v2} = 20$  and  $A_{v3} = 40$ . Calculate overall voltage gain and total voltage gain in dB. (06 Marks)
- c. With a simple block diagram, explain the concept of feedback amplifier. (06 Marks)

**Module-4**

- 7 a. With a neat circuit diagram, explain the operation of a class B push pull power amplifier and maximum conversion efficiency is 78.5%. (08 Marks)
- b. With a neat circuit diagram, explain the operation of RC-phase shift oscillator using BJT and write  $f_{osc}$  equation. (06 Marks)
- c. A series fed class A amplifier as shown in Fig.Q.7(c). Operates from a DC source and applied sinusoidal input signal generates peak base current 9mA. Calculate  $I_{CQ}$ ,  $V_{CEQ}$ ,  $P_{dc}$ ,  $P_{ac}$  and efficiency. (06 Marks)

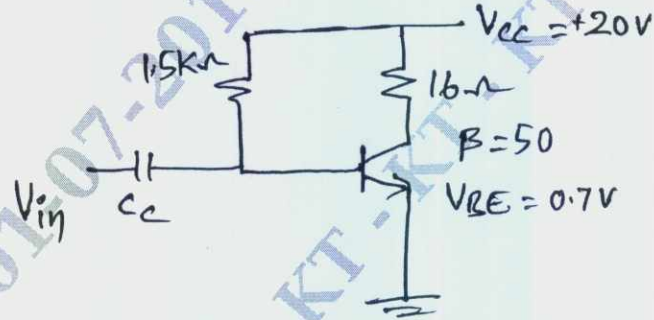


Fig.Q.7(c)

OR

- 8 a. The frequency selective circuit arms of wein bridge oscillator uses  $C_1 = C_2 = 0.001\mu F$ ,  $R_1 = 10K\Omega$  while  $R_2$  is kept variable. The frequency is to be varied from 10Hz to 50kHz by varying  $R_2$ . Find the range of  $R_2$ . (06 Marks)
- b. With a neat circuit diagram, explain the operation of a transformer coupled class A power amplifier and prove that conversion efficiency is 50%. (08 Marks)
- c. With a neat circuit diagram, explain the working principle of crystal oscillator in series resonant mode. (06 Marks)

**Module-5**

- 9 a. Explain the operation of JFET amplifier using fixed bias. Draw the JFET small signal model and derive the expression for  $Z_i$ ,  $Z_o$  and  $A_v$ . (06 Marks)
- b. Explain the construction, working and characteristics of n-channel enhancement type MOSFET. (08 Marks)
- c. Determine the following for network shown in Fig.Q.9(c)  $V_{GSQ}$ ,  $V_{DS}$ ,  $V_S$ ,  $V_G$ ,  $V_D$ . (06 Marks)

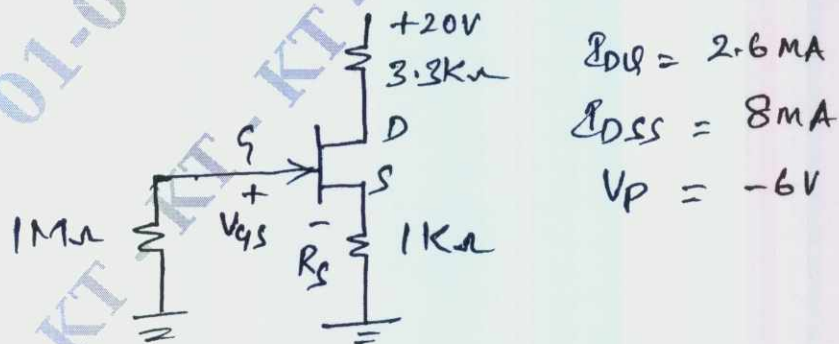


Fig.Q.9(c)

OR

- 10 a. Compare FET over BJT. (06 Marks)
- b. With neat diagrams, Explain the construction, working and characteristics of n-JFET's. (08 Marks)
- c. Design the fixed bias network as shown in Fig.Q.10(c) having an a.c. gain of 10. Determine the value of  $R_D$ . (06 Marks)

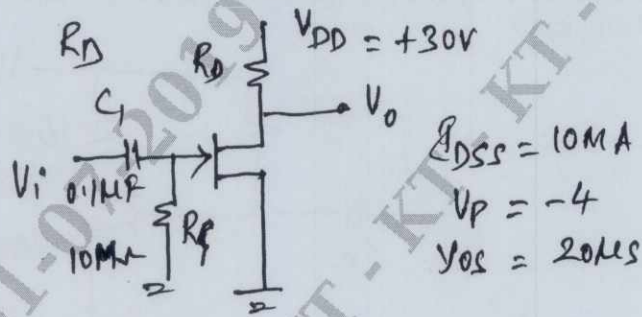


Fig.Q.10(c)

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17MATDIP31

**Third Semester B.E. Degree Examination, Dec.2019/Jan.2020**

## 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 modulus and amplitude of  $\frac{3+i}{2+i}$  (07 Marks)
- b. If  $x = \cos\theta + i \sin\theta$ , then show that  $\frac{x^{2n} - 1}{x^{2n} + 1} = i \tan n\theta$ . (07 Marks)
- c. Simplify  $\frac{(\cos 3\theta + i \sin 3\theta)^4 (\cos 4\theta + i \sin 4\theta)^5}{(\cos 4\theta + i \sin 4\theta)^3 (\cos 5\theta + i \sin 5\theta)^4}$  (06 Marks)

**OR**

- 2 a. Find the sine of the angle between  $\vec{A} = 2\hat{i} + 2\hat{j} - \hat{k}$  and  $\vec{B} = 6\hat{i} - 3\hat{j} + 2\hat{k}$ . (07 Marks)
- b. Find the value of  $\lambda$ , so that the vectors  $\vec{a} = 2\hat{i} - 3\hat{j} + \hat{k}$ ,  $\vec{b} = \hat{i} + 2\hat{j} - 3\hat{k}$  and  $\vec{c} = \hat{i} + \lambda\hat{k}$  are coplanar. (07 Marks)
- c. Prove that  $\vec{a} \times (\vec{b} \times \vec{c}) + \vec{b} \times (\vec{c} \times \vec{a}) + \vec{c} \times (\vec{a} \times \vec{b}) = 0$ . (06 Marks)

### Module-2

- 3 a. Find the  $n^{\text{th}}$  derivative of  $e^{ax} \cos(bx + c)$ . (07 Marks)
- b. If  $y = a \cos(\log x) + b \sin(\log x)$  prove that  $x^2 y_{n+2} + (2n+1)xy_{n+1} + (n^2+1)y_n = 0$ . (07 Marks)
- c. If  $u = \sin^{-1}\left(\frac{x^2 + y^2}{x + y}\right)$ , prove that  $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = \tan u$ . (06 Marks)

**OR**

- 4 a. Find the pedal equation of  $r^n = a^n \cos n\theta$ . (07 Marks)
- b. Expand  $\log_e(1+x)$  in ascending powers of  $x$  as far as the term containing  $x^4$ . (07 Marks)
- c. If  $x = r \cos\theta$ ,  $y = r \sin\theta$ , find  $\frac{\partial(x,y)}{\partial(r,\theta)}$  (06 Marks)

### Module-3

- 5 a. Evaluate  $\int_0^1 \int_{y^2}^y (1+xy^2) dx dy$  (07 Marks)
- b. Evaluate  $\int_0^{2\pi} \sin^4 x \cos^6 x dx$  (07 Marks)
- c. Evaluate  $\int_0^2 \frac{x^4}{\sqrt{4-x^2}} dx$  (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 6 a. Evaluate  $\int_1^2 \int_3^4 (xy + e^y) dy dx$  (07 Marks)
- b. Evaluate  $\int_0^\pi x \sin^8 x dx$  (07 Marks)
- c. Evaluate  $\int_1^2 \int_0^1 \int_{-1}^1 (x^2 + y^2 + z^2) dx dy dz$  (06 Marks)

Module-4

- 7 a. If particle moves on the curve  $x = 2t^2$ ,  $y = t^2 - 4t$ ,  $z = 3t - 5$  where  $t$  is the time. Find the velocity and acceleration at  $t = 1$ . (07 Marks)
- b. Find the angle between the tangents to the curve  $\vec{r} = t^2 \hat{i} + 2t \hat{j} - t^3 \hat{k}$  at the point  $t = \pm 1$ . (07 Marks)
- c. If  $\vec{F} = (3x^2y - z)\hat{i} + (xz^3 + y^4)\hat{j} - 2x^3z^2\hat{k}$  find  $\text{grad}(\text{div } \vec{F})$  at  $(2, -1, 0)$ . (06 Marks)

OR

- 8 a. Find the directional derivative of  $\phi = 4xz^3 - 3x^2y^2z$  at  $(2, -1, 2)$  along  $2\hat{i} - 3\hat{j} + 6\hat{k}$  (07 Marks)
- b. Find the unit normal to the surface  $x^2y + 2xz = 4$  at  $(2, -2, 3)$ . (07 Marks)
- c. Show that  $\vec{F} = (2xy^2 + yz)\hat{i} + (2x^2y + xz + 2yz^2)\hat{j} + (2y^2z + xy)\hat{k}$  is irrotational. (06 Marks)

Module-5

- 9 a. Solve  $\frac{dy}{dx} = \sin(x + y)$  (07 Marks)
- b. Solve  $\frac{dy}{dx} + y \cot x = \cos x$  (07 Marks)
- c. Solve  $(x - y + 1)dy - (x + y - 1)dx = 0$  (06 Marks)

OR

- 10 a. Solve  $(1 + e^{x/4})dx + e^{x/y} \left(1 - \frac{x}{y}\right)dy = 0$ . (07 Marks)
- b. Solve  $(x^3 \cos^2 y - x \sin 2y) dx = dy$ . (07 Marks)
- c. Solve  $(3x^2y^4 + 2xy)dx + (2x^3y^3 - x^2)dy = 0$  (06 Marks)

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Third/Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020

## ಕನ್ನಡ ಮನಸು [Kannada Manasu]

(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 ಪಶ್ಚಿಮ ಪತ್ರಿಕೆಯ ಶ್ರೇಣಿಯನ್ನು ಅಂದರೆ ಅ,ಬ,ಕ ಅಥವಾ ಡ 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. ಕೇವಲ 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.

1. 'ಶ್ರಾವಣ' ಕವನದಲ್ಲಿ ಕವಿ ಸೌಂದರ್ಯ ಯಾವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದೆ?  
ಅ) ನಿಸರ್ಗಕ್ಕೆ ಬ) ಬೆಂಗಳೂರಿಗೆ ಕ) ಬೆಳಗಾವಿಗೆ ಡ) ಕಾಲೇಜಿಗೆ
2. ಕನ್ನಡದ ಪ್ರಸಿದ್ಧ ಲೇಖಕರಾದ 'ಶ್ರೀ ಕುಪ್ಪಳ್ಳಿ ವೆಂಕಟಪ್ಪ ಪುಟ್ಟಪ್ಪನವರ' ಕಾವ್ಯನಾಮ  
ಅ) ರಾಶಿ ಬ) ಕುವೆಂಪು ಕ) ವಿನಾಯಕ ಡ) ಅಂಬಿಕಾತನಯದತ್ತ
3. 'ಬೆಣ್ಣೆ ಹಚ್ಚು' ಪದದ ಅರ್ಥ  
ಅ) ರೊಟ್ಟಿಗೆ ಬೆಣ್ಣೆ ಹಚ್ಚುವುದು ಬ) ವಿಡಂಬನೆ  
ಕ) ಹೊಗಳುವುದು ಡ) ದೋಸೆಗೆ ಬೆಣ್ಣೆ ಹಚ್ಚುವುದು
4. ಶ್ರೀ ವಿಶ್ವೇಶ್ವರಯ್ಯನವರ ವ್ಯಕ್ತಿತ್ವಕ್ಕೆ ಯಾವುದು ಸರಿಹೊಂದಿಕೊಳ್ಳುತ್ತದೆ?  
ಅ) ಶಿಸ್ತು ಬ) ತರ್ಕಬದ್ಧವಾದ ಆಲೋಚನೆ  
ಕ) ನ್ಯಾಯ ಪರತೆ ಡ) ಮೇಲಿನ ಎಲ್ಲವು
5. ಶ್ರೀ ಶಿವರಾಮ ಕಾರಂತರ 'ದೋಣೆ - ಹರಿಗೋಲುಗಳಲ್ಲಿ' ಲೇಖನ ಈ ರೀತಿಯಾಗಿದೆ :  
ಅ) ಪ್ರವಾಸ ಕಥನ ಬ) ಹಾಸ್ಯ ಲೇಖನ  
ಕ) ಯಕ್ಷಗಾನ ಸಂಭಾಷಣೆ ಡ) ಬಂಧಾಯ ಲೇಖನ



6. ಶ್ರೀ ವಿಶ್ವೇಶ್ವರಯ್ಯನವರು ಸ್ಥಾಪಿಸಿದ ಬ್ಯಾಂಕ್  
 ಅ) ಪಂಜಾಬ್ ನ್ಯಾಷನಲ್ ಬ್ಯಾಂಕ್ ಬ) ಮೈಸೂರು ಬ್ಯಾಂಕ್  
 ಕ) ಕೆನರಾ ಬ್ಯಾಂಕ್ ಡ) ವಿಜಯಾ ಬ್ಯಾಂಕ್
7. ಶ್ರೀ ವಿಶ್ವೇಶ್ವರಯ್ಯನವರು ಭಾಷಣಕ್ಕೆ ಪೂರಕವಾಗಿ  
 ಅ) ಶ್ಲೋಕ ವರ್ಗಕ್ಕೆ ಗೌರವ  
 ಬ) ಸರಿಯಾದ ತಯಾರಿ  
 ಕ) ಮಾತಿನ ಮಂಟಪದಲ್ಲಿ ಜನರನ್ನು ಮರಳುಗೋಳಿಸುವುದು  
 ಡ) ಸತ್ಯ ಸಂಗತಿಗಳು
8. 'ಸುಖ' ಪದಕ್ಕೆ ಸಮಾನಾರ್ಥಕ ಜೋಡಿಪದ :  
 ಅ) ನಲಿವು ಬ) ದುಃಖ ಕ) ಒಲವು ಡ) ಸಂತೋಷ
9. 'ನಮ್ಮ ಎಮ್ಮೆಗೆ ಮಾತು ತಿಳಿಯುವುದೇ' ಇದೊಂದು :  
 ಅ) ಹಾಸ್ಯ ಬರಹ ಬ) ಬಂಧಾಯ ಲೇಖನ  
 ಕ) ಹಾಲು ಮಾರುವವನ ಕಥೆ ಡ) ಪ್ರವಾಸ ಕಥನ
10. ಸಚಿವ + ಆಲಯ = ಸಚಿವಾಲಯ: ಕನ್ನಡ ವ್ಯಾಕರಣದಂತೆ ಇಲ್ಲಿರುವ ಸಂಧಿ:  
 ಅ) ಸುವರ್ಣ ಸಂಧಿ ಬ) ಸರ್ವರ್ಥೋಪಸಂಧಿ  
 ಕ) ವೃದ್ಧಿ ಸಂಧಿ ಡ) ಲೋಪ ಸಂಧಿ
11. ಕನ್ನಡಕ್ಕೆ ದೊರೆಕಿರುವ ಜ್ಞಾನಪೀಠ ಪ್ರಶಸ್ತಿಗಳು :  
 ಅ) ೯ ಬ) ೫ ಕ) ೮ ಡ) ೧೦
12. ಕನ್ನಡ ಬರವಣಿಗೆಯ ಕುರಿತು ಇರಬೇಕಾದದ್ದು :  
 ಅ) ಕೀಳರಿಮೆ ಬ) ಅನಾದರ ಕ) ಅನಾಸಕ್ತಿ ಡ) ಆಸಕ್ತಿ
13. 'ರೊಟ್ಟಿ ಮತ್ತು ಕೋವಿ' ಕವನದಲ್ಲಿ ನಾಡಿನ ಸಂಪತ್ತನ್ನು ಸೃಷ್ಟಿಸುವವರು  
 ಅ) ದುಡಿವ ಜನ ಬ) ಬಂಡವಾಳ ಶಾಹಿಗಳು  
 ಕ) ಭಾಷಣಕಾರರು ಡ) ಭಟ್ಟಂಗಿಗಳು
14. "ಒರೆ ಹತ್ತಿ ಉರಿದೆಡೆ ನಿಲಬಹುದಲ್ಲದೇ, ಧರೆ ಹತ್ತಿ ಉರೆದರೆ ನಿಲಬಾರದು, ಏರಿ ನೀರುಂಬಡೆ, ಬೇಲಿ ಹೊಲವ ಮೇವೂಡೆ, ನಾರಿ ತನ್ನ ಮನೆಯಲ್ಲಿ ಕಳುವೊಡೆ ..... ಇನ್ನಾರಿಗೆ ದೂರುವೇ? ಕೂಡಲಸಂಗಮದೇವಾ" ಈ ವಚನದ ರಚನೆಕಾರರು  
 ಅ) ಸರ್ವಜ್ಞ ಬ) ಬಸವಣ್ಣ ಕ) ಅಲ್ಲಮ ಪ್ರಭು ಡ) ಅಕ್ಕ ಮಹಾದೇವಿ
15. 'ಎಲ್ಲ ಹುಡಿಗಿಯರ ಕನಸು' ಪದ್ಯದಲ್ಲಿ ಕವನದಲ್ಲಿ ನಾಯಕಿಯು ತನ್ನ ----- ನ ಮುಂದೆ ತನಗೆ ರಾತ್ರಿ ಬಿದ್ದ ಕನಸನ್ನು ಹೇಳಿಕೊಳ್ಳುತ್ತಾಳೆ.  
 ಅ) ಗೆಳತಿ ಬ) ತಂಗಿ ಕ) ಅವ್ವ ಡ) ಅಕ್ಕ

16. 'ಬೆಂಕ್ರ ಮೇಸ್ಸಿ ಮತ್ತು ಅರಿಸ್ಟಾಟಲ್' ಲೇಖನ ಯಾವ ರೀತಿಯಾಗಿದೆ?  
 ಅ) ವಿನೋದ ಬರಹ ಬ) ಪ್ರವಾಸ ಕಥನ  
 ಕ) ಬಂಧಾಯ ಲೇಖನ ಡ) ಪರಿಸರ ಲೇಖನ
17. ಜಸ್ಟಿಸ್ (justice) ಗೆ ಸರಿಯಾದ ಕನ್ನಡ ಪದ:  
 ಅ) ನ್ಯಾಯಾಧೀಶ ಬ) ಕುಲಪತಿ ಕ) ರಾಜ್ಯಪಾಲ ಡ) ರಾಷ್ಟ್ರಪತಿ
18. ಶ್ರೀ ಸಿದ್ದಲಿಂಗಯ್ಯನವರ 'ಬೆಲ್ವಿಯ ಹಾಡು' ಕವನ ಏನನ್ನು ಪ್ರತಿಪಾದಿಸುತ್ತದೆ?  
 ಅ) ಗೆಲೆತನದ ಮಹತ್ವ ಬ) ದಲಿತರ ಕನಸು  
 ಕ) ಪ್ರೇಮದ ರಮ್ಯತೆ ಡ) ಭಕ್ತಿಯ ಪರವಶತೆ
19. 'ಬಂದೇ ನವಾಜ್' ಯಾರು?  
 ಅ) ಗಣಿಧಣಿಗಳು ಬ) ಯೋಗ ಗುರು  
 ಕ) ಸೂಫಿ ಸಂತರು ಡ) ವಜ್ರದ ವ್ಯಾಪಾರಿಗಳು
20. ಶ್ರೀ ಬಿ.ಜಿ.ಎಲ್. ಸ್ವಾಮಿಯವರ 'ಆನೆಹಳ್ಳದಲ್ಲಿ ಹುಡುಗಿಯರು' ಲೇಖನ ಯಾರ ಶೈಕ್ಷಣಿಕ ಪ್ರವಾಸದ ಕುರಿತಾಗಿದೆ?  
 ಅ) ತಾಂತ್ರಿಕ ವಿದ್ಯಾರ್ಥಿಗಳ ಪ್ರವಾಸ  
 ಬ) ವೈದ್ಯಕೀಯ ವಿದ್ಯಾರ್ಥಿಗಳ ಚಾರಣ  
 ಕ) ಗೆಲೆಯ ಗೆಲತಿಯರ ಚಾರಣ  
 ಡ) ಸಸ್ಯ ವೀಕ್ಷಣೆ ಹಾಗೂ ಸಸ್ಯ ಸಂಗ್ರಹಕ್ಕಂದು ಕಾಡಿಗೇ ಕರೆದುಕೊಂಡು ಹೋದ ಶೈಕ್ಷಣಿಕ ಪ್ರವಾಸ
21. ಶ್ರೀ ಮಂಚೆಸ್ವಾಮಿ ಯಾವುದಕ್ಕೆ ಸರಿಹೊಂದುತ್ತಾರೆ?  
 ಅ) ಮೈಸೂರು - ಮಂಡ್ಯ ಸೀಮೆಯ ಕೆಳವರ್ಗದ ಸಮುದಾಯದಲ್ಲಿ ಜನಪ್ರಿಯರಾಗಿರುವ ಸಂತ  
 ಬ) ಯೋಗ ಗುರು  
 ಕ) ಬೆಳಗಾವಿ ಜಿಲ್ಲೆಯ ಸಂತರು  
 ಡ) ಯಕ್ಷಗಾನ ಕಲಾವಿದರು
22. 'ಮೂಡಣ' ಪದದ ವಿರುದ್ಧಾರ್ಥಕ ಪದ :  
 ಅ) ತೆಂಕಣ ಬ) ಪಡುವಣ ಕ) ಕೊಂಕಣ ಡ) ಬಡಗಣ
23. "ಶ್ರೀ ಎ.ಆರ್ ರೆಹಮಾನರ ಹಾಡಿನ ಕಂಪೋಷಿಷನ್ ತುಂಬಾ ಚೆನ್ನಾಗಿದೆ". ಈ ವಾಕ್ಯದಲ್ಲಿ ಕಂಪೋಷಿಷನ್ ಗೆ ಸರಿಯಾದ ಕನ್ನಡದ ಪದ :  
 ಅ) ಧ್ವನಿ ಸಂಪತ್ತು ಬ) ನಿರ್ದೇಶನ ಕ) ಸಂಯೋಜನೆ ಡ) ಗಾಯನ

24. ವಿಶ್ವಮಾನವತೆ ಏನನ್ನು ಪ್ರತಿಪಾದಿಸುತ್ತದೆ?  
 ಅ) ಕಂದಾಚಾರ ಬ) ಭಾಷಾ ಕಲಹ  
 ಕ) ಮತೀಯ ದ್ವೇಷ ಡ) ಸಹಬಾಳ್ವೆ - ಸೌಹಾರ್ದ
25. ಮನವಿಗಳು ಮತ್ತು ವ್ಯವಹಾರಿಕ ಪತ್ರಗಳಲ್ಲಿ ಇರಬೇಕಾದದ್ದು :  
 ಅ) ನಿಖರ ಮಾಹಿತಿ ಬ) ಸೌಜನ್ಯ  
 ಕ) ನೇರ ನಿರೂಪಣೆ ಡ) ಮೇಲಿನ ಎಲ್ಲವೂ
26. ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ಯಾವ ರೀತಿಯಲ್ಲಿದೆ?  
 ಅ) ವರ್ಣರಂಜಿತ ಬ) ಬಹುರೂಪಿ  
 ಕ) ಜೀವಂತ ಡ) ಮೇಲಿನ ಎಲ್ಲವನ್ನು ಒಳಗೊಂಡ ರೀತಿ
27. ಶ್ರೀ ಬಸವರಾಜ ಕುಕ್ಕರಹಳ್ಳಿಯವರ 'ನೀರು' ಲೇಖನ ಏನನ್ನು ಪ್ರತಿಪಾದಿಸುತ್ತದೆ?  
 ಅ) ಮಾನವ ಬದುಕಿಗೆ ನೀರಿನ ಮಹತ್ವ ಬ) ನೀರು ಕಲಹ ಸೃಷ್ಟಿಸಬಲ್ಲದು  
 ಕ) ನೀರನ್ನು ಹಂಚಿಕೊಂಡು ಬಳಸಬೇಕು ಡ) ಮೇಲಿನ ಎಲ್ಲವನ್ನು ಪ್ರತಿಪಾದಿಸುತ್ತದೆ
28. 'ಶ್ರೀ ಗುಬ್ಬಿ ವೀರಣ್ಣ' ಯಾವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ್ದಾರೆ?  
 ಅ) ತೊಗಲು ಬೊಂಬೆಯಾಟ ಬ) ದೊಡ್ಡಾಟ  
 ಕ) ಯಕ್ಷಗಾನ ಡ) ನಾಟಕ ಕಂಪನಿ
29. ಡಾ || ಬೆಸಗರ ಹಳ್ಳಿ ರಾಮಣ್ಣನವರ 'ಗಾಂಧಿ' ಕತೆ ಏನನ್ನು ಪ್ರತಿಪಾದಿಸುತ್ತದೆ?  
 ಅ) ವರ್ಣಾಶ್ರಮ ಪದ್ಧತಿ  
 ಬ) ಜಾತೀಯತೆ  
 ಕ) ಮೂಢ ನಂಬಿಕೆ  
 ಡ) ಮಹಾತ್ಮಾಗಾಂಧೀಜಿಯವರ ಮೌಲ್ಯಗಳಿಗೆ ಒದಗಿರುವ ಅವಸ್ಥೆಯನ್ನು
30. ಶ್ರೀ ವಿಶ್ವೇಶ್ವರಯ್ಯನವರ ಕೃತ್ಯ ಶಕ್ತಿಗೆ ಸಾಕ್ಷಿಯಾಗಿರುವುದು:  
 ಅ) ಮೈಸೂರು ಬ್ಯಾಂಕ್ ಬ) ಕೃಷ್ಣರಾಜ ಸಾಗರ ಆಣೆಕಟ್ಟು  
 ಕ) ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾಲಯ ಡ) ಮೇಲಿನ ಎಲ್ಲವು

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# CBCS SCHEME

17CPH39/49

USN

1 K T I 7 M E 0 0 8

Question Paper Version : A

**Third/Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020**  
**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 'Government', it meant a body that,  
a) Makes law  
b) Implements laws made  
c) Interprets the laws  
d) Carrying all these functions
  2. Which one of the following is a features common to both the Indian Federation and the American Federation.  
a) A single citizenship  
b) A federal supremecourt to interpret the constitution  
c) Three lists in the constitution  
d) Dual judiciary
  3. The preamble in the constitution of independent India is modified version of which of the following :  
a) Bill of Rights in USA  
b) British MagnaCarta  
c) Objectives resolution moved by Jawaharlal Nehru  
d) Ideals of communism
  4. In the Indian constitution, the Right to Equality is granted by,  
a) Article 16 – 20  
b) Article 15 – 19  
c) Article 14 – 18  
d) Article 13 – 17
  5. Uniform civil code is one of the,  
a) Fundamental rights  
b) Directive principle of state policies  
c) Fundamental duties  
d) None of these

6. Concept of fundamental duties copied from which country's constitution,  
 a) USSR ~~b) USA~~  
 c) UK d) JAPAN
7. Who is said to be an integral part of the Union Legislature (Parliament)?  
 a) Speaker of Lok Sabha b) Chairman of Rajya Sabha  
~~c) President~~ d) Prime Minister
8. With reference to Vice-President, consider the following statements:  
 i) The removal proceedings of Vice-President can be begin in lower house of parliament.  
 ii) There is no specific provision in the Indian constitution regarding election of Vice-President.  
 Which of the statements given is/are correct?  
 a) (i) only b) (ii) only  
~~c) Both (i) and (ii)~~ d) Neither (i) nor (ii).
9. The Supreme court of India tenders advice to the President on a matter of law or fact.  
~~a) On its own initiative~~ b) Only if he seeks such advice  
 c) Only if the matter relates to the extent of powers of the Union  
 d) Only if the issue relates to international treaty or agreement
10. Consider the following statements:  
 i) The oath of Governor is conducted by the Chief Minister of the respective state.  
 ii) The constitution does not fix any tenure for the post of Governor of a state.  
 Which of statements given above is / are correct?  
 a) (i) only ~~b) Both (i) and (ii)~~  
 c) (ii) only d) Neither (i) or (ii)
11. When it comes to the passage of Money Bills, how is the situation in the Union Parliament different from that in the State Legislature?  
 a) At the Union level, Money Bill can be introduced only in the Lok-Sabha, but at the state level, it can be introduced either house of state Legislature.  
 b) The time limit within which the upper house can return a money bill is 14 days, in case of the Union and one month in State Legislature.  
~~c) In Parliament, there is no provision for joint session in case of Money Bills, but there can be joint session over money Bill in State Legislature.~~  
 d) None of the above
12. Judge of the High Court can be impeached on the ground of,  
 a) Proved misbehaviour b) Corruption  
~~c) High crimes~~ ~~d) Emergency~~
13. Nomination papers shall be submitted with,  
~~a) The Chief Election Commissioner~~ b) The Regional Election Commissioner  
 c) The Returning Officer d) None of these
14. 73<sup>rd</sup> Amendment provides establishment of,  
 a) High courts ~~b) Rural local self Government~~  
 c) Lokayukta d) Start ups



15. A college student desires to get elected to the Municipal council of his city. The validation of his nomination would depend on the important condition, among others, that  
 a) He has attained the maturity      b) He is a member of a political party  
 c) His name figures in the Voter's list      d) He is the topper to the class
16. To declare emergency \_\_\_\_\_ consent is must.  
 a) Prime Minister      b) Cabinet headed by the Prime Minister  
 c) Speaker of Lok Sabha      d) Chief Justice of the Supreme Court
17. It is not the effect of State emergency,  
 a) State legislature can be dissolved      b) President assumes the state executive power  
 c) Parliament may make law over state list      d) Effects on state Judiciary
18. Which of following statements is / are correct in respect of co-operative societies:  
 i) Part IX-B of the constitution deals.  
 ii) Right to form a co-operative society is a fundamental under the constitution.  
 iii) Co-operative societies also mentioned under Directive Principles of state policy  
 Select the correct answer using the code given here.  
 a) (i) only      b) (ii) only  
 c) (i) and (iii) only      d) (i), (ii) and (iii)
19. What day do countries celebrate as Human Rights Day?  
 a) 1 January      b) 10 December  
 c) 2 March      d) 6 June
20. What does the International Bill of Human Rights provide?  
 a) A list of economic human rights.  
 b) The rights that all citizens hold  
 c) A list of indivisible human rights covering civil and political rights.  
 d) An authoritative list of universal human rights covering civil and political rights and economic, social and cultural rights.
21. \_\_\_\_\_ is the watch dog of human rights in India.  
 a) High court      b) Parliament  
 c) National Human Rights Commission      d) None of these
22. Engineering Ethics is a,  
 a) Developing ethics      b) Preventive ethics  
 c) Natural ethics      d) Scientifically developed ethics
23. For engineering profession \_\_\_\_\_ is considered as its foundation.  
 a) Honesty      b) Hard work  
 c) Sound common sense      d) None of these
24. A compound measure of the probability and magnitude of the adverse effect is known as,  
 a) Benefit      b) Compensation  
 c) Risk      d) Both (a) and (b)



25. 'Trimming' is,  
a) Retaining the entire data  
b) Consolidating the data  
c) Smoothing of irregularities to make the data to appear accurate and precise  
d) All the above
26. A fault tree is used to,  
a) Access the risk involved  
b) Improve safety  
c) Take free consent  
d) Claim compensation
27. The formula of a soft drink is an example of,  
a) Copyright  
b) Trade secret  
c) Patent  
d) Trade mark
28. An author retains copyright of his book for,  
a) 25 years  
b) 50 years  
c) Life time + 60 years  
d) 100 years
29. This is not dishonesty in engineering,  
a) Forging  
b) Blending  
c) Cooking  
d) Trimming
30. This is not implement to responsibility,  
a) Fear  
b) Self respect  
c) Self deception  
d) Ignorance.

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