EC : ELECTRONIC AND COMMUNICATION ENGINEERING

Duration : Three Hours **Maximum Marks : 100**

Read the following instructions carefully.

1. Do not open the seal of the Question Booklet unlit you are asked to do so by the invigilator.
2. Take out the Optical Response Sheet (**ORS**) from this Question Booklet **without breaking the seal** and read the instruments printed on the ORS carefully. If you find the Question Booklet Code printed at the right hand top corner of this page does not match with the Booklet Code on the ORS, exchange the booklet immediately with a new sealed Question Booklet.
3. On the right half of the **ORS**, using **ONLY a black ink ball point pen**, (i) darken the bubble corresponding to your test paper code and the appropriate bubble under each digit of your registration number and (ii) write your registration number, your name and name of the examination center and put your signature at the specified location.
4. This Question Booklet contain 16 pages including blank pages for rough work. After you are permitted to open the seal, please check all pages and report discrepancies, if any, to the invigilator.
5. There are a total of 65 Question carrying 100 marks. All these questions are of objective type. Each question has only on correct answer. Question must be answered on the left hand side of the **ORS** by darkening the appropriate bubble (marked A, B, C, D) using **ONLY a black ink ball point pen** against the question number. **For each question darken the bubble of the correct answer**. More than on answer bubbled against a question will be treated as an incorrect response.
6. Since bubbles darkened by the black ink ball point pen **cannot** be erased, candidates should darken the bubbles in the **ORS very carefully**.
7. Question Q. 1 Q. 25 carry 1 mark each. Questions Q. 26 - Q. 55 carry 2 marks each. The 2 marks question include two pairs of common data questions and two pairs of linked answer questions. The answer of the second question of the linked answer questions depends on the answer to the first question of the pair. If the first question in the linked pair is wrongly answered or is unattemped, then the answer to the second question in the pair will not be evaluated.
8. Question Q. 56 - Q. 65 belong to General Aptitude (GA) section and carry a total of 15 marks. Question Q. 56 - Q.60 carry 1 mark each, and questions Q. 61 -Q. 65 carry 2 marks each.
9. Unattempted questions will result in zero mark and wrong answer will result in **NEGATIVE** marks. For all 1 mark questions 1/3 mark will be deducted for each wrong answer. For all 2 marks questions, 2/3 mark will be deducted for each wrong answer. However, in the case of the linked answer question pair, there will be negative marks only for wrong answer to the first question and no negative marks for wrong answer to the second question.
10. Calculator is allowed whereas charts, graph sheets or tables are **NOT** allowed in the examination hall.
11. Rough work can be done on the question paper itself. Blank pages are provided at the end of the question paper for rough work.
12. Before the start of the examination, write your name and registration number in the space provided below using a blank ink ball point pen.

Names								
Registration Number	**EC**							

Q.1- Q.25 carry one mark each.

Q.1 If $A = 0$ in logic expression $Z = [A + EF + \overline{B}C + D][A + \overline{DE} + \overline{B}C + \overline{DE}]$, then

(A) $Z = 0$ (B) $Z = 1$

(C) $Z = \overline{B}C$ (D) $Z = B\overline{C}$

Q.2 A card is drawn at random from an ordinary deck of 52 playing cards. If we are told that card is heart, then information is

(A) 2.12 bits (B) 2 bits

(C) 3.46 bits (D) 31.36 bits

Q.3 A DS/BPSK spread spectrum signal has a processing gain of 500. If the desired error probability is 10^{-5} and (ε_b / J_0) required to obtain an error probability of 10^{-5} for binary PSK is 9.5 dB, then the Jamming margin against a containers tone jammer is

(A) 23.6 dB (B) 17.5 dB

(C) 117.4 dB (D) 109.0 dB

Q.4 A 60 Ω coaxial cable feeds a $75 + j25\,\Omega$ dipole antenna. The voltage reflection coefficient Γ and standing wave ratio s are respectively

(A) $0.212 \angle 48.55^\circ, 1.538$ (B) $0.486 \angle 68.4^\circ, 2.628$

(C) $0.486 \angle 41.45^\circ, 2.682$ (D) $0.212 \angle 68.4^\circ, 1.538$

Q.5 The directive gain of an antenna is 36 dB. It the antenna radiates 15 kW at a distance of 60 km, the time average power density at that distance is

(A) 9.42 μW/m^2 (B) 6.83 mW/m^2

(C) 1.32 mW/m^2 (D) 10.46 mW/m^2

Q.6 If $\mathbf{A}$ is a 3-rowed square matrix such that $|\mathbf{A}| = 2$, then $|\text{adj}(\text{adj}\,\mathbf{A}^2)|$ is equal to

(A) 2^4 (B) 2^8

(C) 2^{16} (D) None of these

Q.7 $\int_0^{\frac{\pi}{2}} \log \tan x \, dx$ is equal to

(A) $-\frac{\pi}{2}\log_e 2$ (B) $-\pi \log_e 2$

(C) $\frac{\pi}{2}\log_e 2$ (D) None of these

Q.8 An anti-aircraft gun can take a maximum of 4 shots at an enemy plane moving away from it. The probabilities of hitting the plane at the first, second, third and fourth shot are 0.4, 0.3, 0.2 and 0.1 respectively. The probability that the gun hits the plane is

(A) 0.76 (B) 0.4096

(C) 0.6976 (D) None of these

Q.9 The following fields exist in charge free regions

$\mathbf{P} = 60\sin(\omega t + 10x)\,\mathbf{u}_z$ $\mathbf{Q} = \dfrac{10}{\rho}\cos(\omega t - 2\rho)\,\mathbf{u}_\phi$

$\mathbf{R} = 3\rho^2\cot\phi\,\mathbf{u}_\rho + \dfrac{1}{\rho}\cos\phi\,\mathbf{u}_\phi$ $\mathbf{S} = \dfrac{1}{r}\sin\theta\sin(\omega t - 6r)\,\mathbf{u}_\theta$

The possible electromagnetic fields are

(A) $\mathbf{P},\mathbf{Q}$ (B) $\mathbf{R},\mathbf{S}$

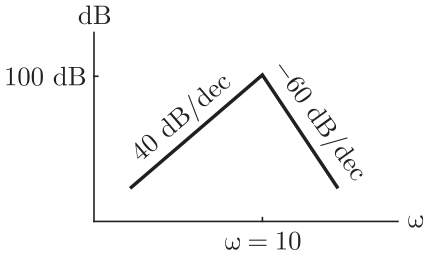
(C) $\mathbf{P},\mathbf{R}$ (D) $\mathbf{Q},\mathbf{S}$

Q.10 A random process has the power density spectrum $\rho_{XX}(\omega) = \dfrac{6\omega^2}{\left[1+\omega^2\right]^3}$. The average power in process is

(A) 1/4 (B) 3/8

(C) 5/8 (D) 1/2

Q.11 The Bode plot shown below represent



(A) $\dfrac{100s^2}{(1+0.1s)^3}$ (B) $\dfrac{1000s^2}{(1+0.1s)^3}$

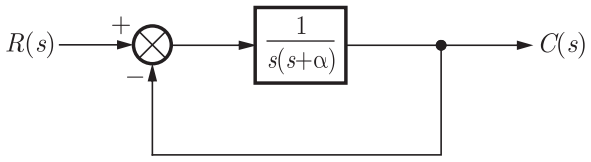
(C) $\dfrac{100s^2}{(1+0.1s)^5}$ (D) $\dfrac{1000s^2}{(1+0.1s)^5}$

Q.12 The forward transfer function of a *ufb* system is $G(s) = \dfrac{K(s^2+1)}{(s+1)(s+2)}$. The system is stable for

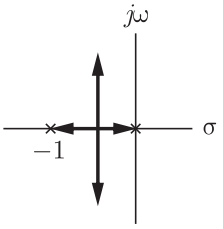
(A) $K < -1$ (B) $K > -1$

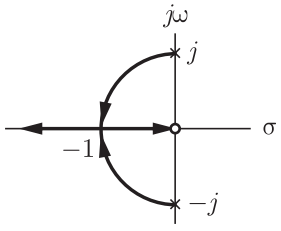
(C) $K < -2$ (D) $K > -2$

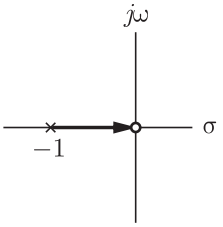
Q.13 Consider the *ufb* system shown below

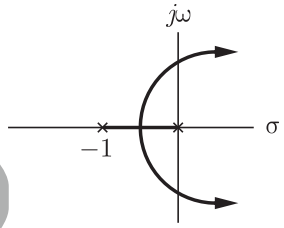


The root-loci, as α is varied, will be

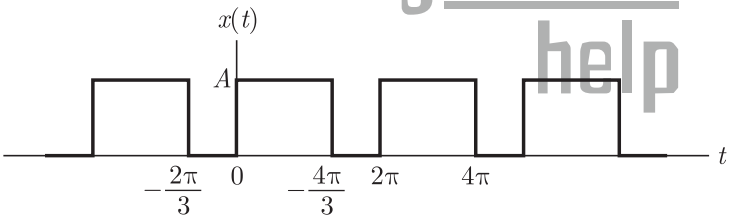
(A)


(B)


(C)


(D)


Q.14 The Fourier series coefficient for the periodic signal shown below is



(A) $\frac{A}{2\pi k}\left(e^{-j\left(\frac{4\pi k}{3}\right)}-1\right)$

(B) $j\frac{A}{2\pi k}\left(e^{-j\left(\frac{4\pi k}{3}\right)}-1\right)$

(C) $-j\frac{A}{2\pi k}\left(e^{-j\left(\frac{4\pi k}{3}\right)}-1\right)$

(D) $\frac{-A}{2\pi k}\left(e^{-j\left(\frac{4\pi k}{3}\right)}-1\right)$

Q.15 The z transform of $3^n u[-n-1]$ is

(A) $\frac{z}{3-z}, |z|>3$

(B) $\frac{z}{3-z}, |z|<3$

(C) $\frac{3}{3-z}, |z|>3$

(D) $\frac{3}{3-z}, |z|<3$

Q.16 Consider $x[n]=\{1,2,-1\}$ and $h[n]=x[n]$. The convolution $y[n]=x[n]*h[n]$ is

(A) $\{1,\ 4,\ 1\}$

(B) $\{1,\ 4,\ 2,\ -4,\ 1\}$

(C) $\{1,\ 2,\ -1\}$

(D) $\{2,\ 4,\ -2\}$

Q.17 The signal $x(t) = e^{j(2t+\frac{\pi}{4})}$ is a

(A) power signal with $P_\infty = 1$

(B) power signal with $P_\infty = 2$

(C) energy signal with $E_\infty = 2$

(D) energy signal with $E_\infty = 1$

Q.18 A 12-bit (3-digit) DAC that uses the BCD input code has a full scale output of 9.99 V. The value of v_{out} for an input code of 0110 1001 0101 is

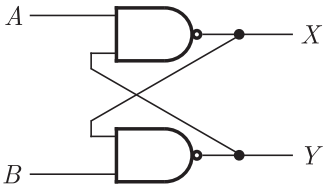
(A) 4.11 V

(B) 6.95 V

(C) 7.38 V

(D) 7.88 V

Q.19 In shown below initially $A = 1$ and $B = 1$, the input B is now replaced by a sequence 1 0 1 0 1 0 ... the outputs X and Y will be



(A) Fixed at 0 and 1, respectively

(B) Fixed at 1 and 0, respectively

(C) $X = 1\ 0\ 1\ 0$ ... while $Y = 1\ 0\ 1\ 0$ ...

(D) $X = 1\ 0\ 1\ 0$ ... while $Y = 0\ 1\ 0\ 1$ ...

Q.20 The simplified form of a logic function $Y = A(B + C(\overline{AB + AC}))$ is

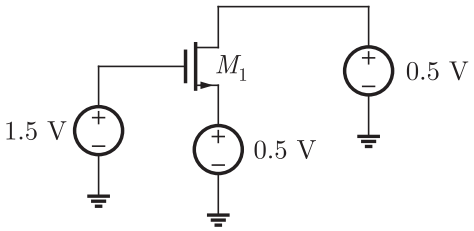
(A) $\overline{A}\,\overline{B}$

(B) AB

(C) $\overline{A}B$

(D) $A\overline{B}$

Q.21 In the following circuit of figure, the region of operation of M_1 is ($V_{TH} = 0.4$ V)



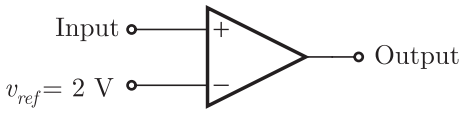
(A) Linear

(B) Saturation

(C) M_1 is off

(D) Cannot be determined

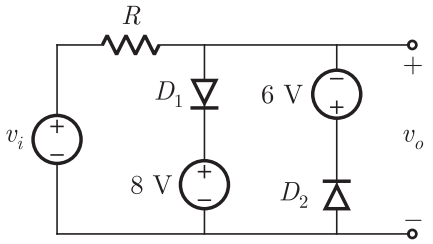
Q.22 If the input to the following ideal comparator is a sinusoidal signal of8 V (peak to peak) without any DC component., the output of the comparator has a duty cycle of

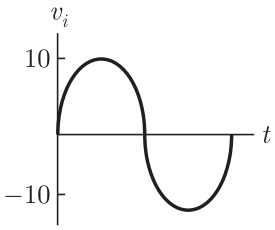


(A) $\frac{1}{2}$ (B) $\frac{1}{3}$

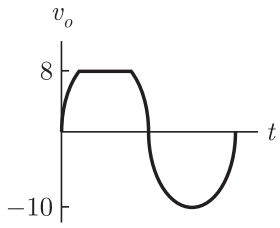
(C) $\frac{1}{6}$ (D) $\frac{1}{12}$

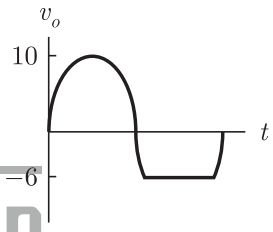
Q.23 Consider the given circuit and a waveform for the input voltage. The diode in circuit has cutin voltage $V_\gamma = 0$.

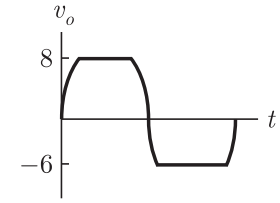


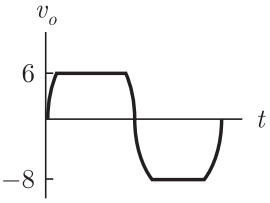


The waveform of output voltage v_o is

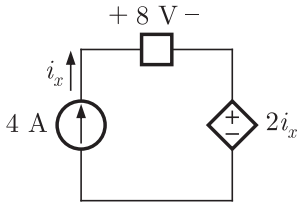
(A)


(B)


(C)


(D)


Q.24 For the circuit shown in figure the dependent source



(A) supplies 16 W (B) absorbs 16 W

(C) supplies 32 W (D) absorbs 32 W

Q.25 Increasing the yield of an IC

(A) reduces individual circuit cost

(B) increases the cost of each good circuit

(C) results in a lower number of good chips per wafer

(D) means that more transistor can be fabricated on the same size wafer.

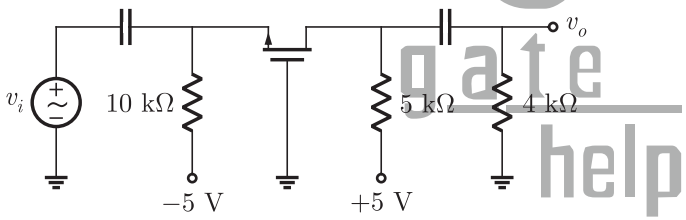
Q.26- Q.55 carry two mark each.

Q.26 Two p^+n silicon junction is reverse biased at $V_R = 5\,\text{V}$. The impurity doping concentration in junction A are $N_a = 10^{18}\,\text{cm}^{-3}$ and $N_d = 10^{-15}\,\text{cm}^{-3}$, and those in junction B are $N_a = 10^{18}\,\text{cm}^{-3}$ and $N_d = 10^{16}\,\text{cm}^{-3}$. The ratio of the space charge width is

(A) 4.36 (B) 9.8

(C) 19 (D) 3.13

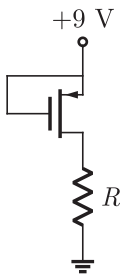
Q.27 Consider the NMOS common-gate circuit shown below. The parameter are $g_m = 2$ mS and $r_o = \infty$. The voltage gain A_v is



(A) 4.44 (B) -4.44

(C) 2.22 (D) -2.22

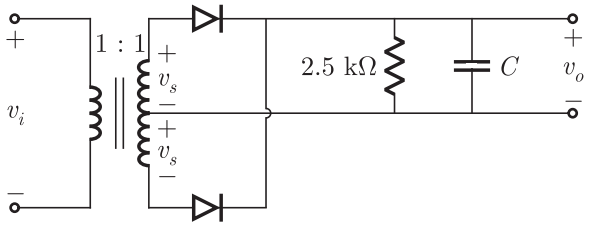
Q.28 In the circuit shown below the PMOS transistor has parameter $V_{TP} = -1.5\,\text{V}$, $k_p^{'} = 25\,\mu\text{A/V}^2$, $L = 4\,\mu\text{m}$ and $\lambda = 0$. If $I_D = 0.1\,\text{mA}$ and $V_{SD} = 2.5\,\text{V}$, then value of W will be



(A) 15 μm (B) 1.6 μm

(C) 32 μm (D) 3.2 μm

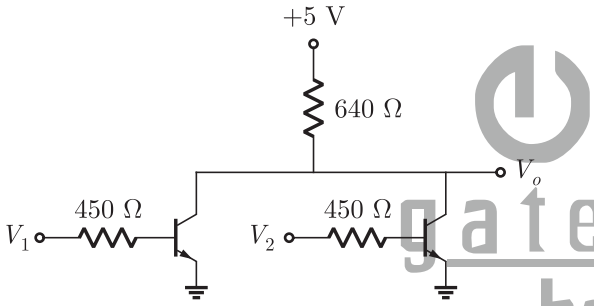
Q.29 The input to full-wave rectifier shown below is $v_i = 120\sin 2\pi 60t$ V. The diode cutin voltage is 0.7 V. If the output voltage cannot drop below 100 V, the required value of the capacitor is



(A) 61.2 μF (B) 41.2 μF

(C) 20.6 μF (D) 30.6 μF

Q.30 Consider the RTL gate shown below. The transistor parameters are $V_{CE(sat)} = 0.2$ V and $\beta = 50$. The logic HIGH voltage is $V_H = 3.5$ V. If input drive the similar type of gate, the fan out is



(A) 5 (B) 10

(C) 15 (D) 20

Q.31 The contents of some memory location of an 8085 μP based system are shown

Address Hex.	Contents (Hex.)
3000	02
3001	30
3002	00
3003	30

The program is as follows

```
LHLD 3000H
MOV E, M
INX H
MOV D, M
LDAX D
```

```
MOV L, A
INX D
LDAX D
MOV H, A
```

The contents if HL pair after the execution of the program will be

(A) 0030 H (B) 3000 H

(C) 3002 H (D) 0230 H

Q.32 $\int_0^{\pi} \cos^m x \sin^n x dx$ is equal to zero, if

(A) m is even (B) n is even

(C) m is odd (D) n is odd

Q.33 $\int_c \frac{\cos \pi z}{z-1} dz = ?$ where c is the circle $|z| = 3$

(A) $i2\pi$ (B) $-i2\pi$

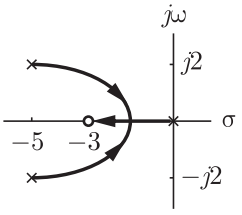
(C) $i6\pi^2$ (D) $-i6\pi^2$

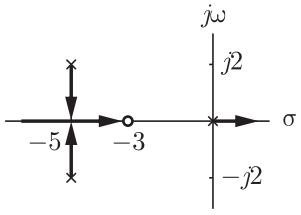
Q.34 For $dy/dx = x + y^2$, given that $y = 0$ at $x = 0$. Using Picard's method, up to third order of approximation the solution of the differential equation is

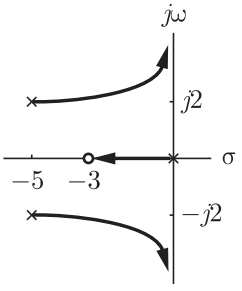
(A) $\frac{x^2}{2} + \frac{x^5}{40} + \frac{x^8}{480} + \frac{x^{11}}{1600}$ (B) $\frac{x^2}{2} + \frac{x^5}{20} + \frac{x^8}{160} + \frac{x^{11}}{4400}$

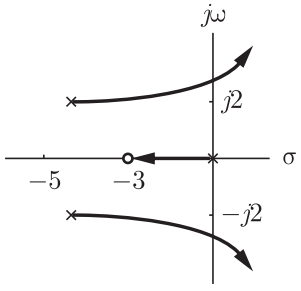
(C) $\frac{x^2}{2} + \frac{x^5}{20} + \frac{x^8}{160} + \frac{x^{11}}{2400}$ (D) $\frac{x^2}{2} + \frac{x^5}{40} + \frac{x^8}{480} + \frac{x^{11}}{2400}$

Q.35 The root-loci for $\alpha > 0$ with $K = 10$ is

(A)


(B)


(C)


(D)


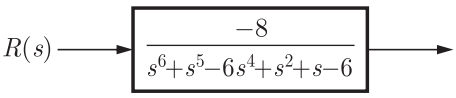
Q.36 Consider the List I and List II

List I	List II
P. Derivative control	1. Improved overshoot response
Q. Integral control	2. Less steady state errors
R. Rate feed back control	3. Less stable
S. Proportional control	4. More damping

The correct match is

	P	Q	R	S
(A)	1	2	3	4
(B)	4	3	1	2
(C)	2	3	1	4
(D)	1	2	4	3

Q.37 For the open loop system shown below location of poles on RHP, LHP, and an $j\omega$ axis are



(A) 3,3,0 (B) 1,3,2

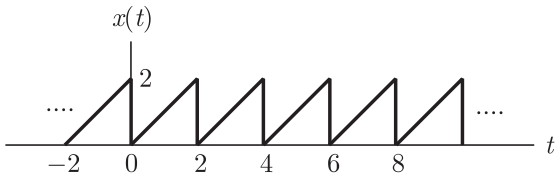
(C) 1,1,4 (D) 3,1,2

Q.38 Two signals $x_1(t)$ and $x_2(t)$ are given as $x_1(t) = 6\sin c(100t)\cos(200\pi t)$ and $x_2(t) = 10\sin c^2(100t)$ If Nyquist sampling rate for $x_1(t)$ and $x_2(t)$ are N_1 and N_2 respectively, the ratio N_1/N_2 is

(A) 2/3 (B) 1

(C) 3/2 (D) 1/2

Q.39 The exponential Fourier series of a signal $g(t)$ shown below is given as $x(t) = 1 + \sum_{m=-\infty}^{\infty} X_m e^{-jm\omega_0 t}$. The coefficient X_m is



(A) $X_m = \dfrac{1}{2m\pi} e^{j\frac{\pi}{2}}$ (B) $X_m = \dfrac{1}{m\pi} e^{j\frac{\pi}{2}}$

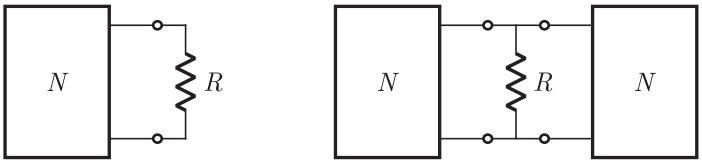
(C) $X_m = \dfrac{2}{m\pi} e^{j\frac{\pi}{2}}$ (D) $X_m = \dfrac{1}{m\pi}$

Q.40 A CT signal is given as $x(t) = 5\text{rect}\left(\frac{t}{2}\right) * [\delta(t+1) + \delta(t)]$ then value of $x\left(\frac{1}{2}\right)$ is

(A) 5 (B) 10

(C) 0 (D) 25

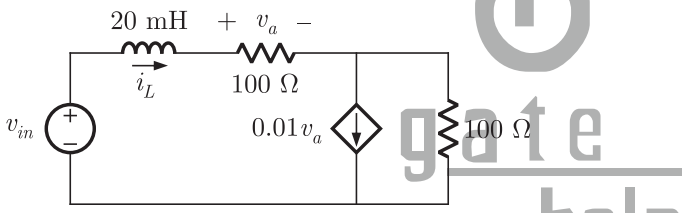
Q.41 A network N feeds a resistance R as shown in circuit below. Let the power consumed by R be P. If an identical network is added as shown in figure, the power consumed by R will be



(A) equal to P (B) less than P

(C) between P and $4P$ (D) more than $4P$

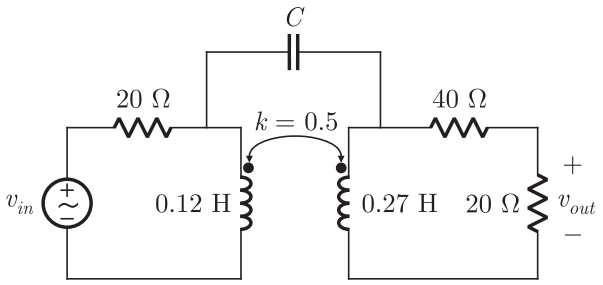
Q.42 In the circuit given below $v_{in}(t) = 10\mu(t)$, the current $i_L(t)$ is



(A) $(-0.1 + 0.1e^{-5000t})$ A (B) 0.1 A

(C) $(-0.1 - 0.1e^{-5000t})$ A (D) 0.2 A

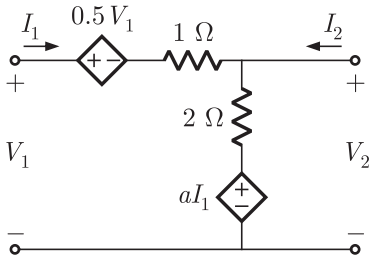
Q.43 In the following circuit the voltage gain v_{out}/v_{in} is zero at $\omega = 333.33$ rad/s. The value of C is



(A) 3.33 mF (B) 33.33 mF

(C) 3.33 μF (D) 33.33 μF

Q.44 The circuit shown below is reciprocal if a is



(A) 2 (B) -2

(C) 1 (D) -1

Q.45 Air craft of Jet Airways at Ahmedabad airport arrive according to a poisson process at a rate of 12 per hour. All aircraft are handled by one air traffic controller. If the controller takes a 2- minute coffee break, what is the probability that he will miss one or more arriving aircraft?

(A) 0.33 (B) 0.44

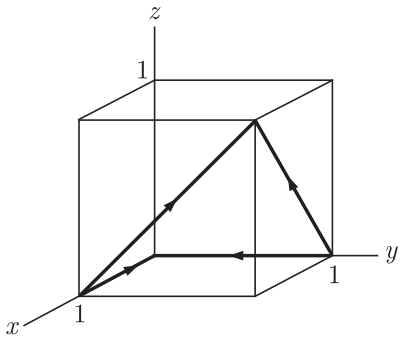
(C) 0.55 (D) 0.66

Q.46 An AM modulator has output $x(t) = 40\cos 400\pi t + 4\cos 360\pi t + 4\cos 440\pi t$. The modulation efficiency is

(A) 0.01 (B) 0.02

(C) 0.03 (D) 0.04

Q.47 The circulation of $\mathbf{F} = x^2\mathbf{u}_x - xz\mathbf{u}_y - y^2\mathbf{u}_z$ around the path shown below is

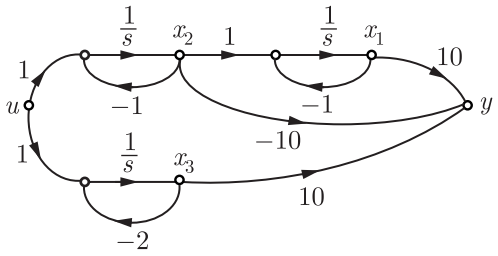


(A) $-\frac{1}{3}$ (B) $\frac{1}{6}$

(C) $-\frac{1}{6}$ (D) $\frac{1}{3}$

Common Data Q. 48-49:

Consider the system shown below



Q.48 The controllability matrix for this system is

(A) $\begin{bmatrix} 10 & -10 & 10 \\ -10 & 0 & -20 \\ 10 & -20 & 40 \end{bmatrix}$

(B) $\begin{bmatrix} 0 & 1 & -2 \\ 1 & -1 & 1 \\ 1 & -2 & 4 \end{bmatrix}$

(C) $\begin{bmatrix} 10 & -10 & 10 \\ -10 & 0 & 20 \\ 10 & -20 & -40 \end{bmatrix}$

(D) $\begin{bmatrix} 0 & 1 & -1 \\ 1 & 6 & -1 \\ 1 & -4 & -4 \end{bmatrix}$

Q.49 The observability matrix is

(A) $\begin{bmatrix} 10 & -10 & 10 \\ -10 & 0 & -20 \\ 10 & -10 & -40 \end{bmatrix}$

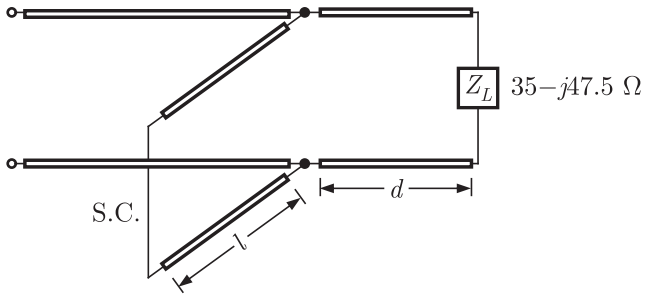
(B) $\begin{bmatrix} 0 & 1 & -2 \\ 1 & -1 & 1 \\ 1 & -2 & 4 \end{bmatrix}$

(C) $\begin{bmatrix} 10 & -10 & 10 \\ -10 & 0 & 20 \\ 10 & 10 & -40 \end{bmatrix}$

(D) $\begin{bmatrix} 0 & 1 & 2 \\ 1 & -1 & 1 \\ 1 & -2 & 4 \end{bmatrix}$

Common Data Q. 50-51 :

For the transmission line shown below the $Z_0 = 100\,\Omega$.



Q.50 If $Z_L = 0$ the Z_{in} is

(A) $94.11 - j76.45\,\Omega$

(B) $94.11 + j76.45\,\Omega$

(C) $48.23 - j68.2\,\Omega$

(D) $48.23 + j68.2\,\Omega$

Q.51 If $Z_L = \infty$, then Z_{in} is

(A) $39 + j183\,\Omega$ (B) $39 - j183\,\Omega$

(C) $64 + j148\,\Omega$ (D) $64 - j148\,\Omega$

Statement for Linked Answer Q. 52-53 :

In a fast FH spread spectrum system, the information is transmitted via FSK with non coherent detection. Suppose there are $N = 3$ hops/bit with hard decision decoding of the signal in each hop. The channel in AWGN with power spectral density $1/2\mathcal{N}_0$ and an SNR 20-13 dB (total SNR over the three hops)

Q.52 The probability of error for this system is

(A) 0.013 (B) 0.0013

(C) 0.049 (D) 0.0049

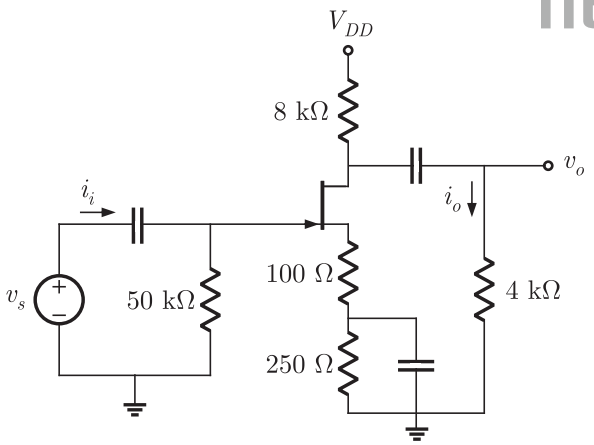
Q.53 In case of one hop per bit the probability of error is

(A) 1.96×10^{-5} (B) 1.96×10^{-7}

(C) 2.27×10^{-5} (D) 2.27×10^{-7}

Statement for Linked Answer Q. 54-55 :

Consider the JFET amplifier circuit shown in figure.



Transistors parameters are $I_{DSS} = 2$ mA, $V_P = -2, \lambda = 0$

Q.54 Transconductance is

(A) 1.57 mA/V (B) 0.785 mA/V

(C) 11.28 mA/V (D) 13.81 mA/V

Q.55 Small signal voltage gain A_v is

(A) -1.81 (B) -31.86

(C) -26.01 (D) -3.62

General Aptitude(GA) Questions

Q.56- Q.60 carry one mark each.

Q.56 In the following series, what number should come next ?
7, 10, 8, 11, 9, 12, ...

(A) 7 (B) 10

(C) 12 (D) 13

Q.57 Which word does not belong with the others in given options ?

(A) couch (B) rug

(C) table (D) chair

Q.58 The word given below is used in four different ways given in options. Choose which of the usage of the word is incorrect or inappropriate.
MEASURE

(A) The success of party was due in no small measure to its populist policies.

(B) The school failed to measure to the expectations it had created through publicity.

(C) Preventive measures are the only means to contain the spread of AIDS.

(D) Your suit will have to be made to measure since ready-mades don't fit you properly.

Q.59 Choose the word from the options given below that is closet in the meaning to the given word.
EXTOL

(A) stir up (B) leave out

(C) glorify (D) persuade

Q.60 How many pairs of non-negative integers exist, such than the difference between their product and their sum is 72 ?

(A) 7 (B) 5

(C) 2 (D) 1

Q.61- Q.65 carry two mark each.

Q.61 People sometimes say they will return back to a place they have visited. But, since return means the same thing as go back to, the expressions return back is redundant. The word redundant could be used to describe which one of the following phrases

(A) cooperate together (B) walk slowly

(C) review again (D) add information

Q.62 The United States Supreme Court is the highest court in the nation. Its nine judges review cases for other courts. They decide whether these courts have ruled in a way that agrees with the United States Constitution. But, they cannot make new laws. Their decision is based on a majority vote of the nine judges.
The main ideal of this paragraph is that

A. The United States Constitution is the basis for our laws.

B. The Supreme Court is the highest court in the United States.

C. The supreme Court cannot make new laws.

D. The supreme Court's decisions are based on a majority vote.

Q.63 If $|2a-5| \leq 9$ and $|4b-7| \leq 21$, then what is the maximum value of $|a|-|b|$?

(A) 6 (B) 5

(C) 7 (D) 3

Common Data for Q : 64-65 :

Five boys and Five girls are having a group discussion sitting around a round table. Their mentor also sits with them for grading.

Q.64 If all the seats around the round table are indistinguishable, then how many possible ways are there to sit around the table such that the mentor who is a male, must be seated in between two girls ?

(A) $20 \times 8!$ (B) $10 \times 8!$

(C) ${}^5C_2 \times 7!$ (D) $10!$

Q.65 If all the seats around the table are indistinguishable, in how many possible ways can they sit around the table such that the boys and girls sit in alternate possible ?

(A) $6! \times 5!$ (B) $5! \times 5!$

(C) $4! \times 6!$ (D) none of these

END OF THE QUESTION PAPER

ATTENTION!

For Detailed Solutions Please Mail to gatehelp2012@gmail.com with Subject **MOCK Test Solutions** and provide following details in your email

- Name:
- College:
- City:
- Mode of Preparation: Coaching/self study
- Phone no:
- How have you heard about GATHELP? ....
- Are you referring any book by NODIA for your GATE Preparation: Yes/No

(If Yes, Mention Books)

Exclusive Series By Jhunjhunuwala

GATE CLOUD

By R. K . Kanodia & Ashish Murolia

GATE Cloud is an exclusive series of books which offers a completely solved question bank to GATE aspirants. The book of this series are featured as

- Over 1300 Multiple Choice Questions with full & detailed explanations.
- Questions are graded in the order of complexity from basic to advanced level.
- Contains all previous year GATE and IES exam questions from various branches
- Each question is designed to GATE exam level.
- Step by step methodology to solve problems

Available Title In this series

- Signals and Systems (For EC and EE)
- Network Analysis (For EC)-- Available in 2 Volumes
- Electric Circuit and Fields (For EE) -- Available in two volumes
- Electromagnetic (For EC)

Upcoming titles in this series

- Digital Electronics (Nov 2012)
- Control Systems (Dec 2012)
- Communication Systems (Jan 2012)

For Sample chapter please mail to enquiry@nodia.co.in or visit www.nodia.co.in

Exclusive Series By Jhunjhunuwala

GATE GUIDE

Theory, Example and Practice

By R. K . Kanodia & Ashish Murolia

GATE GUIDE is an exclusive series of books which provides theory, solved examples & practice exercises for preparing for GATE. A book of this series includes :

- **Brief and explicit theory**
- **Problem solving methodology**
- **Detailed explanations of examples**
- **Practice Exercises**

Available Title In this series

- Signals and Systems (For EC and EE)
- Network Analysis (For EC)
- Electric Circuit and Fields (For EE)

Upcoming titles in this series

- Digital Electronics(For EC and EE)
- Control Systems (For EC and EE)
- Communication Systems (For EC and EE)

For Sample chapter please mail to enquiry@nodia.co.in or visit www.nodia.co.in