



ENGINEERS ACADEMY[®]

Your GATEway to Professional Excellence

IES • GATE • PSUs • JTO • IAS • NET

GATE 2018

(Graduate Aptitude Test in Engineering)

ELECTRICAL ENGINEERING

Memory Based Questions and Answer

Gopalpura Centre :

S-52-53, Mahaveer Nagar,
Behind Jaipur Hospital,
Tonk Road, Jaipur - 18

Pratapnagar Centre :

100-102, Ram Nagar-B,
Bambala Puliya, Toll Tax,
Pratap Nagar, Jaipur - 302033

Kukas Centre :

80-85, Sai Vatika, Near Sai
Temple, Jaipur Delhi Highway,
Kukas, Jaipur-202028 (Raj.)
Tel # 723 999 0 999

National Helpline No. # 0809 444 1 777 www.engineersacademy.org

Study Centres also at :

AJMER • ALLAHABAD • BHILWARA • DELHI • JALANDHAR • JODHPUR
KANPUR • KOTA • LUDHIANA • LPU CAMPUS • LUCKNOW • PATNA



ENGINEERS ACADEMY

Your GATEway to Professional Excellence

IES • GATE • PSUs • JTO • IAS • NET

Electrical Engineering

EE

Subject	2018
General Aptitude	15
Engg. Maths	11
Electrical Machines	10
Electric Fields & Circuits	10
Control Systems	8
Power Systems	10
Power Electronics	10
Signals & Systems	8
Analog Electronics	7
Measurements	4
Digital Electronics & MP	7

National Helpline Number # 809 444 1 777

www.engineersacademy.org • www.onlineengineersacademy.org • www.eapublications.org

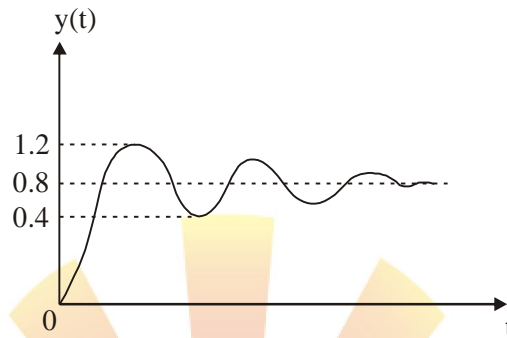


Corporate Office : 100-102, Ram Nagar, Bambala Puliya, Toll Tax, Pratap Nagar, Tonk Road, Jaipur-302033 (Rajasthan)

Head Office : S-52-53, Mahaveer Nagar, Behind Jaipur Hospital, Gopalpura, Tonk Road, Jaipur-302018 (Rajasthan)

1. A step response of a negative unity feedback system with open loop transfer function $G(s) = \frac{K}{(s+1)^2(s+2)}$ is shown in figure.

The value of K is _____



Sol. K = 8

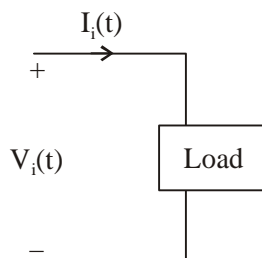
2. Consider a open loop transfer function $G(s) = \frac{1}{(s+1)(s+2)}$ with negative unity feedback system the steady state error in output for an unit step input is

Sol. 0.67

3. Given $V_i(t) = 5 - 10 \cos(\omega t + 60^\circ)$

$$I_i(t) = 5 + X \cos(\omega t)$$

The value of X in amp such that the average power on the load is zero



Sol. 10 Amp



ENGINEERS ACADEMY

Your GATEway to Professional Excellence

IES • GATE • PSUs • JTO • IAS • NET

ANNOUNCES SSC-JE (MAINS) CLASSROOM PROGRAM

Engineers Academy offers classes for SSC-JE (Mains) in a pattern proof mode. This means that you are prepared to give your best and optimum performance. We are the only institute whose students do well in SSC-JE (Mains).

All engineers Academy students or Ex-Engineers Academy or outsider who qualified for SSC Mains we provide a excellent platform in preparation of SSC-JE (Mains). As students have cleared the pre exam so he/she has knowledge of technical syllabus but to sharpening their skills and parallel thinking process which makes them capable of creatively resolving complex and tricky problems by mere application of basic concepts for a quantum jump in their performance in SSC-JE (Mains). Each student has the right strategy for himself/herself for Time Management to ensure optimum output. This enables the students to excel not only in SSC-JE (Mains) also in various Technical Govt. Exams.

ENGINEERS ACADEMY OFFERS CLASSROOM PROGRAM FOR FOLLOWING STREAMS

**Civil
Engineering**

**Electrical
Engineering**

**Mechanical
Engineering**

Entire program is divided into two phases followed by special classes of rank improvement program :

Classroom Practice Phase

Conventional Question Practice Phase

FEATURES OF CLASSROOM PROGRAM

Chapter Practice Problem (CPP)

All India Test Series

SSC-JE (Mains) Archive

Duration	Timing	Total Test
Classroom contact hours of approximately 120 hours	Monday to Saturday	10 Subject wise tests + 10 full length conventional tests.

Note: Timing & Venue are subjected to revise as per requirements.

FEE STRUCTURE

- Non-Engineers Academy Students : 7500/-
- Ex-Engineers Academy Students : 5000/-

DOCUMENT REQUIRED

- 2 PHOTOS
- UID Photo Copy

Helpline :

8094441777

Website :

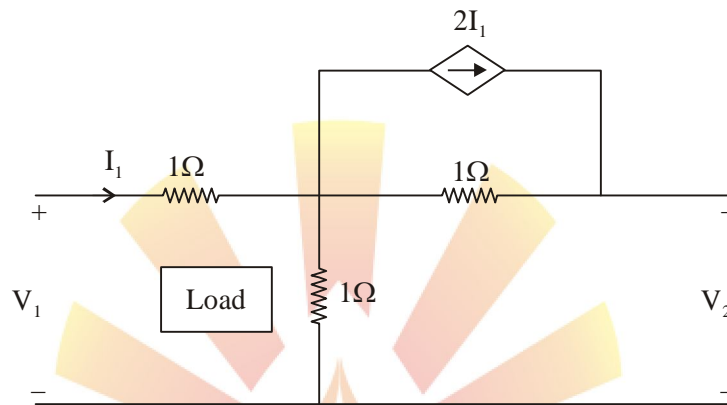
www.engineersacademy.org

**ADMISSION OPEN
for SSC-JE (Mains)
5 March 2018**

4. A parallel RC connection with Series on inductor value of $R = 100\Omega$, $C = 100 \mu\text{F}$. If power factor is unity at $\omega = 100 \text{ rad./sec}$. The equivalent Z_m in ohm will be –

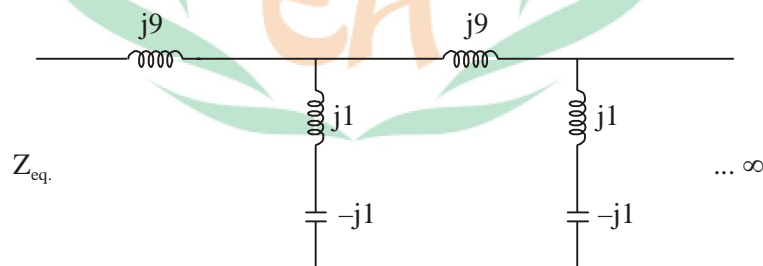
Sol. 50 Ω

5. Consider two port network shown in below figure, the value of $h_{11} = \frac{V_1}{I_1} | V_2 = 0$ in Ohm is



Sol. 0.5 Ω

6. Consider a reactive ladder infinite network as shown below :-



The value of magnitude of Z_{eq} for infinite network in ohm will be :-

Sol. 12 Ω

Power of Quality Education & Ultimate Care

ADMISSION OPEN

for

2018-19



ESE, GATE, PSUs, SSC-JE, AEn/JEn

**ESE + GATE
+ PSUs**

17 Feb. 2018

**GATE +
PSUs**

17 Feb. 2018

**JEn
(SSC & State)**

**12 Feb. 2018
5 Mar. 2018**

**SSC-JE
(MAINS)**

5 March 2018

**RRB
SSE/JE**

**12 Feb. 2018
05 Mar. 2018**



ENGINEERS ACADEMY[®]

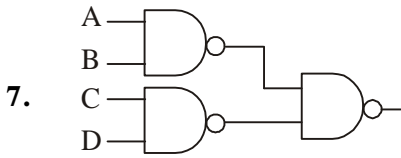
Your GATEway to Professional Excellence

IES • GATE • PSUs • JTO • IAS • NET

STUDY CENTERS

- PRATAP NAGAR CENTER** : 100-102, Ram Nagar, Bambala Puliya, Toll Tax,
Pratap Nagar, Tonk Road, Jaipur (Raj.) Tel # +91 8094441999
- KUKAS CENTER** : 80-85, Sai Vatika, Near Sai Temple, Jaipur-Delhi Highway,
Kukas, Jaipur-302028 (Rajasthan) • Tel # 0723999 0 999
- Gopalpura Center** : S-52-53, Mahaveer Nagar, Behind Jaipur Hospital, Gopalpura,
Tonk Road, Jaipur-302018 (Rajasthan) • Tel # +91 7737582200

National Board Helpline No. : 809 444 1 777



The output of Y is

Sol. $Y = A + B + C + D$

8. A network consists 5 loop equation and 8 node calculation number of branch in the network

- (a) 11
- (b) 12
- (c) 15
- (d) 14

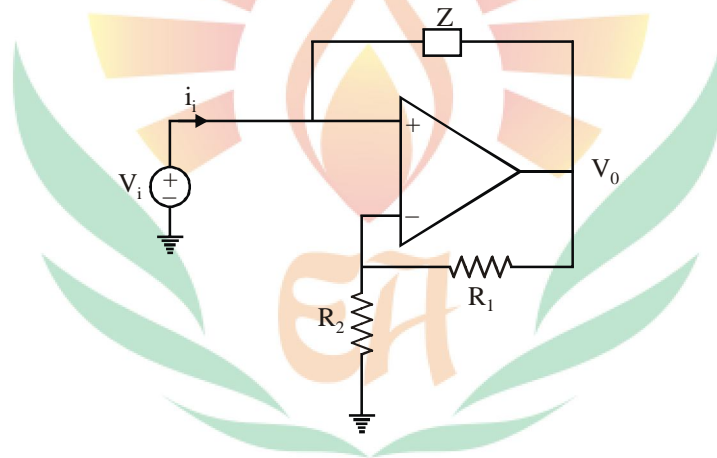
Sol.

$$l = b - (n - 1)$$

$$5 = b - (8 - 1)$$

$$b = 12$$

9.



Calculate the ratio of $\left(\frac{V_i}{i_1}\right)$

- (a) $\left(1 + \frac{R_1}{R_2}\right)Z$
- (b) $-\left(\frac{R_1}{R_2}\right)Z$
- (c) $-\left(\frac{R_1}{R_1}\right)Z$
- (d) $\left(\frac{R_1}{R_1}\right)Z$

Sol. (c)

ESE • GATE • PSUs • SSC-JE • RRB • AE/JE

**ADMISSIONS
OPEN for**

Session 2018-19 & 2019-20

**Classroom
Course**

www.engineersacademy.org

- Regular Classroom Course
- Weekend Classroom Course
- Foundations Classroom Course

**Postal
Course**

www.eapublications.org

- ESE Postal Course
- GATE Postal Course
- SSC-JE Postal Course
- PSUs & AE/JE Postal Course

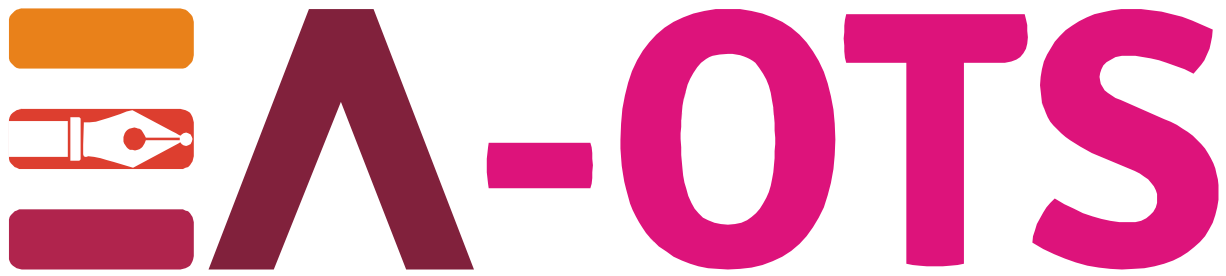
**Test
Series**

www.onlineengineersacademy.org

- ESE Online & Offline Test Series
- GATE Online & Offline Test Series
- SSC-JE Online & Offline Test Series
- AE/JE Online & Offline Test Series

Exclusive Batches for

METRO- DMRC/JMRC/LMRC/MEGA/BMRCL/ MEGA, DRDO, BARC ,ISRO, CPWD-JE, PWD-JE , PHED-JE, WRD-JE, RRB-SSE/JE, BSBL-JTO/JE , ESIC-JE, FCI-JE, UPRVUSA-JE, TNPL-GT, UPRVUNL-JE, UPPCL-JE, TSTRANSCO-AE, TSTRANSCO-JE, RAILTEL-AE, State Irrigation Deptt. , PSTCL -JE/SDO , Indian Navy, HUDCO-TO , KPTCL-JE/AE, CONCOR-MT, JUVNL-JE , BSPHCL-JE, BIS- Scientist-'B' , APPSC-AE , Allahabad Bank-Engineer , AIESL- Aircraft Technician , WSETCL-AE/JE , CWC-MT , DVC -AE , RAILTEL-AE , TSTRANSCO-AE , DFCCIL-AE, NHAI, AAI, DDA, RII CO-AE and Govt. Exams.



Engineers Academy Online Test Series

Online Test Series & Free Mock Tests for Competitive Exams in India

Boost your exam preparation with Engineers Academy to crack the most popular competitive exams in India. Select your course and get started.

GATE-2019
Online Test Series

Basic Level Tests • Advance Level Tests
Mock Level Tests • Practices Tests
For

CE,EE,ME,CSE,EC,IN,CH

Login at : www.onlineengineersacademy.org

Download Android Mobile App from Playstore or IOS App from itunes

FLAT 25% Discount

Apply Discount Code: EADGATE25

SSC-JE -2018
Online Test Series

Basic Level Tests • Advance Level Tests
Mock Level Tests • Practices Tests
For

CE,EE,ME

Login at www.onlineengineersacademy.org

Download Android Mobile App from Playstore or IOS App from itunes

FLAT 25% Discount

Apply Discount Code: EADSSC25

Test Series Available at Laptop, Desktop, Tablet, Android Phones, IOS Phones

Once again we proved



EA PANTHER

"We are history maker"



Engineers Academy - Achievements



ENGINEERS ACADEMY
Your GATEway to Professional Excellence
IES • GATE • PSUs • JTO • IAS • NET

JAIPUR – PRATAP NAGAR CENTER

100-102, Ram Nagar, Bambala Puliya, Toll Tax, Pratap Nagar, Tonk Road, Jaipur (Raj.) Tel # 0809 444 1 999

JAIPUR- KUKAS CENTER

80-85, Sai Vatika, Near Sai Temple, Jaipur-Delhi Highway, Kukas, Jaipur-302028 (Rajasthan) • Tel # 0723999 0 999

DELHI CENTER

H N- 712, Ground Floor, Opp Batra Cinema, Dr. Mukherjee Nagar, Delhi-110009 • Tel # 0723 999 2 777

PATNA CENTER

4th Floor, Magadh Naresh, Opp KFC & SBI Bank, Main Road Kankarbagh, Patna- 800020 (Bihar) • Tel # 0843 444 1 777

JALANDHAR CENTER

Prestige Chamber, 4th Floor, CHR Group, GT Road, Bus Stand, Jalandhar- 144001 (Punjab) • Tel # 07589 44 1 777

AJMER CENTER

MERC Building , Inside Madhav Dwar, Adarsh Nagar, Ajmer - 305002 (Rajasthan) • Tel # 097994 94491

LPU CAMPUS CENTER

Lovely Professional University Campus, Block-13, Room-206 , Delhi G.T. Road, Phagwara-144411 (Punjab) • Tel# 09465 22 00 33

LUDHIANA CENTER

18-H, Sarabha Nagar, Panacea Institute, Ludhiana-141001 (Punjab) • Tel # 090562 76701

JAIPUR- GOPALPURA CENTER

S-52-53, Mahaveer Nagar, Behind Jaipur Hospital, Gopalpura, Tonk Road, Jaipur-302018 (Rajasthan) • Tel # 077375 82200

LUCKNOW CENTER

1st Floor, Corporation Bank, Sector-E, Aliganj, Lucknow-226024 (U.P.) • Tel # 081 888 41 777

BHILWARA CENTER

2nd Floor, Fateh Tower, Nagori Garden, Bhilwara-311001 (Rajasthan) • Tel # 09351 770 644

KANPUR CENTER

Basement, Trilok Plaza, Lakhanpur, Behind Gurdev Place, Kanpur-208024 (U.P.) • Tel # 0723 999 2222

KOTA CENTER

P.No.-7A, 18 Second Floor, Near Mahaveer Nagar-3 Circle, Rangbari Road, Kota-324005 (Rajasthan) • Tel # 082902 56340

JODHPUR CENTER

B-4 1st Floor, Mahaveer Colony, Shivam Hospital, Bhaskar Circle, Ratanada, Jodhpur (Rajasthan) • Tel # 76655 06 888

ALLAHABAD CENTER

EA Campus, Salori, Allahabad, Uttar Pradesh -211004 Tel # 0723 999 1 444

National Helpline Number # 809 444 1 777

www.engineersacademy.org • www.onlineengineersacademy.org • www.eapublications.org



Corporate Office : 100-102, Ram Nagar, Bambala Puliya, Toll Tax, Pratap Nagar, Tonk Road, Jaipur-302033 (Rajasthan) • Ph.:+91 8094441999
Head Office : S-52-53, Mahaveer Nagar, Behind Jaipur Hospital, Gopalpura, Tonk Road, Jaipur-302018 (Rajasthan) • Ph. : +91 7737582200