

ANDHRA UNIVERSITY

Telegrams: UNIVERSITY
Telephone: 284 4000
Fax: 0891-2755324



All Official letters,
packages etc, should be
addressed to the Registrar
by designation and not by
name.

No. L I (2)/U.G. Courses/Electronics/MQP/2021

Visakhapatnam,
Dt: 22-06-2021

From: **THE REGISTRAR**

To

Dr. Praveen Choppala,
Chairman,
Board of Studies in B.Sc. Electronics (U.G.),
Wistm Engineering College,
Pinagadi,
Visakhapatnam.

Sir,

Sub: Approval of Model Question Papers – Reg.

Ref: Email dated 12-06-2021 along with Model Question Papers.

With reference to the above, I am by direction to inform that the Revised Choice Based Credit System, U.G. Courses (w.e.f. 2020-2021) I-Semester Model Question Paper of Circuit Theory and Electronics Devices has been approved.

Hence, I request to arrange to circulate the same among the Teaching Staff and Students concerned and placed in A.U. website.

Yours faithfully,

(M. HEMA NAIK)

DEPUTY REGISTRAR (ACADEMIC)

Copies to:

1. The Dean of Academic Affairs, A.U., VSP.
2. The Dean, U.G. & P.G, Professional Courses, A.U., Vsp.
3. The Dean, CDC, A.U., Vsp.
4. The Dean, Confidential, A.U., Vsp.
5. All Principals, A.U. Affiliated Colleges Offered in U.G. courses.
6. The Controller of Examinations, A.U., Vsp.
7. The Superintendent S.I Section for taking necessary further action.
8. The Secretary to V.C., Rector Table, P.A. to Registrar, A.U., Vsp.
9. The Director, Computer Centre, A.U., Vsp.
10. O.C. & O.O.F.

AU - BSc. Electronics - Circuit Theory and Electronic Devices

Inbox



Praveen Choppala

Sat, Jun 12, 1:10
PM (2 days ago)

to me, Praveen

To

The Registrar,

Andhra University, Visakhapatnam

Dear Sir,

I herewith submit the model question paper for **Circuit Theory and Electronic Devices** for **1-1 B.Sc. Electronics** course, for your kind perusal.

Best Regards,

Dr Praveen Choppala

2 Attachments

Visakhapatnam

10.06.2021

To

The Registrar,

Andhra University,

Visakhapatnam

Dear Sir,

Sub: Submission of model question paper for B.Sc. Electronics, reg.,

I herewith submit the model question paper for the course **Circuit Theory and Electronic Devices for B.Sc. Electronics 1st year 1st semester** for your kind approval.

Yours Sincerely,



(PRAVEEN CHOPPALA)

Head Dept of
WISTM Engg. College
Pinagadi, VSP

From

Dr Praveen Babu Choppala

BoS, B.Sc. Electronics, Andhra University,

Associate Professor, WISTM, Andhra University

Phone: +91 7893651912



ANDHRA UNIVERSITY
FIRST YEAR B.Sc., FIRST SEMESTER
CBCS SEMESTER SYSTEM WITH EFFECT FROM 2020-2021
Subject: ELECTRONICS
Paper: CIRCUIT THEORY AND ELECTRONIC DEVICES

Time: Three Hours

Maximum Marks: 75

Section A, Answer ANY FIVE questions,

5 × 5 = 25 Marks

1. Define and obtain expression for average value, effective (R.M.S) values.
2. What is nodal analysis? Explain star to delta conversion with an example.
3. State and prove the Reciprocity theorem.
4. Draw the frequency response of the RL circuit.
5. Draw the input and output characteristics of CE configuration.
6. What are the advantages of FET over BJT?
7. Define rectifier? What is the efficiency (η) of a half wave and full wave rectifier?
8. Explain Light Emitting Diode with circuit diagram.

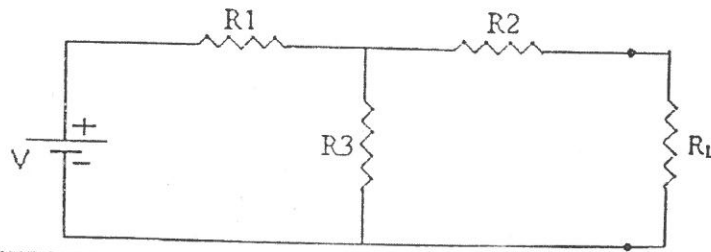
Section B, Answer ALL questions (Internal Choice),

5 × 10 = 50 Marks

9. (a) Define voltage and current? Explain sinusoidal voltage and current.
(or)
9. (b) Give the differences between A.C and D.C? Draw the Phase relation of R, L and C
10. (a) State and prove Millman's Theorem.
(or)
10. (b) State and prove Thevenin's theorem and draw Thevenin's equivalent circuit to find the load current for the network shown below. [V=6 Volts, R1=2 Ω , R2=2 Ω , R3=4 Ω , R_L=4 Ω]



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11. (a) Show that RC high pass circuit is differentiating circuit and low pass circuit is an integrator circuit.

(or)

11. (b) Derive the Q-factor for series and parallel resonance circuits.

12. (a) Draw the input-output characteristics of the CE mode of a transistor. Define cutoff, active and saturation region in the characteristics.

(or)

12. (b) Explain the construction and working of MOSFET and draw its characteristics.

13. (a) Consider a center tap full-wave rectifier with $R_L = 1K\Omega$ and for diode $R_f = 10\Omega$. The primary voltage is $800\sin(\omega t)$ with transformer turns ratio = 2 (step down). Determine (i) average value of current, (ii) r.m.s value of current, (iii) ripple factor and (iv) rectifier efficiency.

(or)

13. (b) Define filter? Explain the L-section and π - section filter with a circuit diagram.



Devi
 Head Dept of ECE
 WISTM Engg. College
 Pinagadi, VSP