



AC-3061
Second Year B. Sc. (Sem. - IV) Examination
April / May - 2015
Electronics : Paper - III
(Amplifier & Linear Integrated Circuits)

Time : 2 Hours]

[Total Marks : 50

Instructions : (1)

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|---|---|---|---|---|---|--|--|--|--|--|--|
| <p>नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य वपनी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : Second Year B. Sc. (Sem. - IV)</p> <p>Name of the Subject : Electronics : Paper - III</p> <p>Subject Code No. : <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="padding: 2px 5px;">3</td><td style="padding: 2px 5px;">0</td><td style="padding: 2px 5px;">6</td><td style="padding: 2px 5px;">1</td></tr></table> Section No. (1, 2,....): Nil</p> | 3 | 0 | 6 | 1 | <p>Seat No. :</p> <table border="1" style="margin: 0 auto; text-align: center;"><tr><td style="width: 20px; height: 20px;"> </td><td style="width: 20px; height: 20px;"> </td><td style="width: 20px; height: 20px;"> </td><td style="width: 20px; height: 20px;"> </td><td style="width: 20px; height: 20px;"> </td><td style="width: 20px; height: 20px;"> </td></tr></table> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; margin-top: 10px;">Student's Signature</div> | | | | | | |
| 3 | 0 | 6 | 1 | | | | | | | | |
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- (2) Figure on the right indicates full marks.
- (3) All symbols and abbreviations have their usual meaning.
- (4) Non-programmable calculators are allowed.
- (5) Q.I is compulsory.
- (6) Assume data if necessary.

- I Answer in short (4 X 2) [08]**
- a What is the basic and necessary condition for oscillation?
 - b Write the uses of Astable multivibrator
 - c What is power Amplifier ?
 - d What is harmonic distortion ?
- II**
- a Explain operation of Wein bridge Oscillator in detail **07**
 - b Explain the types and requirement of Oscillation **04**
 - c The R C network of Wein bridge oscillator consists of resistors and capacitors of values $R=220K \Omega$ and $C=250pF$.Determine the frequency of Oscillation **03**
- OR**
- II**
- a Draw the circuit diagram of Bistable multivibrator and explain it **08**
 - b Why an Astable multivibrator also called square wave generator **03**
 - c In Astable multivibrator $R_1=R_2=10K\Omega$ $C_1=C_2=0.01\mu F$ and $R_{L1}=R_{L2}=1 K\Omega$ find the minimum values of transistor β **03**
- III**
- a Explain Class B power amplifier in detail with circuit diagram **06**
 - b Explain the circuit operation of Class AB push-pull amplifier in brief **05**
 - c For Power Amplifier working in class A operation, the zero signal collector current is $100mA$. if d.c supply voltage is $12 V$ determine the power rating of the transformer **03**

OR

| | | | |
|------------|---|--|-----------|
| III | a | Explain Dual input Unbalanced out put differential amplifier in detail | 08 |
| | b | Explain following terms (1) Constant current bias (2) Differential amplifier | 06 |
| IV | | Write Short Notes (ANY TWO) | 14 |
| | 1 | Phase shift Oscillator | |
| | 2 | MonoStable Multivibrator | |
| | 3 | Circuit configuration of Differential amplifier | |
| | 4 | Single Tuned Amplifier | |
