

(4)

Unit-IV / FkacF-IV

8. Describe the working and applications of Cathode Ray oscilloscope. Explain the voltage controlled oscillator. 12  
CRO keær keæUeCeeuer leLee Gmekeå DevegeUeeceWk r JUeeKUee  
keæeS- CRO keær JUeeKUee keæeS-
9. Write short notes on any two of following: 12
- (i) Lock in Amplifiers  
uekeå Fve (le)Ueå
  - (ii) Strain Gauge  
mšveiepe
  - (iii) Digital multimeter  
e[epesue ceušceesj

A

(Printed Pages 4)

Roll No. \_\_\_\_\_

S-616

B.Sc. (Part III) Examination, 2015

ELECTRONICS

First Paper

(Signal Processing & Electronic Instrumentation)

**Time Allowed : Three Hours ] [ Maximum Marks : 75**

Note : Answer Five questions in all. Question No.1 is compulsory. Attempt one question from each Unit.

keæue heeBe ælveeUkeå Gøej ocepeS- ælve meå 1 DeæreJeeUeænw  
æelUeå FkacF&mes Skeå ælve keæeS-

1. Write short answers of the following :

efrecveeUeKee keå meå#ehle Gøej eueeKeS :  $3 \times 10 = 30$

- (a) Signal reconstruction  
emeiveue hegeæreæce
- (b) Time division multiplexing  
šeFce e[elpeve ceušchueekæeie
- (c) Non linear systems  
Dej#Keå ememšce

(2)

(d) D/A Conversion

D/A heefj Jel ete

(e) CCD display

CCD thel Mette

(f) Time base generator

mecel Ueej pevej sj

(g) Frequency Counter

Dee lebe ie Ceke

(h) Phase lock loop Circuit

heape ueke uehe heefj heLe

(i) Clamper and Clipper Circuits

keirethej S Jeb ekeirehej heefj heLe

(j) Solid state detectors

"eme DejemLeete mehneke

Unit-I / FkeaeF-I

2. Describe the sampling theorem with its applications. 11

mehneue the becebe keae GheUeeSfeleeDeellwmeefn le J UeeK Uee keaepeS-

3. What are sample and hold amplifiers? Explain its working with a proper circuit diagram. 11

mehneue Deeij nesu [ theleOekea keblee netes n? GeUete heefj heLe eUeSe Eeje Fvekeae keaeUe& eUeeDe mecePeeF Ues

(3)

Unit-II / FkeaeF-II

4. Draw the circuit diagram and explain the functioning of a 4 bit ladder type D/A converter. 11

4 ejeS uefj j SeFhe D/A heefj Jel ete keae heefj heLe DeueKe yevekeaj Gmekeae keaeUeeUeeDe keae J UeeK Uee keaepeUes

5. Describe the functioning of LCD and LED displays. Write their respective merits and demerits. 11

LCD S Jeb LED thel MkeaeUkeae keaeUeeUeeDe keae J UeeK Uee keaepeS- Fve oesveUkeae ieGe S Jeb oese yeleeF Ues

Unit-III / FkeaeF-III

6. Explain the wave shaping capability and operating characteristics of Schmidt circuit. 11

eUeej heefj heLe keae lej lie TMheCe #ecele S Jeb mekeaj kea DeeUee#eCeeU keae J UeeK Uee keaepeUes

7. Describe the working principle of monostable multivibrator with proper circuit diagram using 555IC. What are differences between Astable and monostable multivibrators? 11

GeUete j Kee eUeSe yevekeaj ceesveemS yeue ceuŠer keae keaeUe theCeeueer keae IC555 theUeeSe keaj kea J UeeK Uee keaepeS- ceesveemS yeue Je SmŠ yeue ceuŠeeF yeŠj cellkeblee Devlej n?