Vivekanand College, Kolhapur (Empowered Autonomous)
Department of Electronics
Notice

Date: 24.09.2024

All the students of B.Sc. I Electronics are hereby informed that their internal examination for Semester I will be conducted in offline mode as per given schedule.

Paper Code	Section title	Marks	Date	Time
DSC03ELE11	Analog Electronics II	10	04/10/2024	11:50 am-12:40 pm
DSC03ELE12	Digital Electronics II	10	05/10/2024	11:50 am-12:40 pm

Paper format:
Q1. Write the correct alternative 2 marks
Q2. Attempt any two (4 marks each) 8 marks

i. ----------
ii. ----------
iii. ----------
iv. ----------

(Dr. C. B. Patil)
HEAD
DEPARTMENT OF ELECTRONICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Shree Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Class: B.Sc.-I, Semester-I, Internal Examination (2024-25)

Course code: 2DSC03ELE12 **Subject**: Digital Electronics-I

Time: 11:50 am to 12:30 pm **Marks**: 10 **Date**:-05/10/2024

Q.1.Select the Correct alternative **[2M]**

1. The base of the hexadecimal number system is.....

   a) 2 b) 4 c)8 d) 16

2. What does ASCII stand for.....

   a) American standard code for information interchange

   b) American scientific code for information interchange

   c) American scientific code for interchanging information

   d) none of these

Q.2 .Attempt any Two (Four mark each) **[8 M]**

1. Write a note ASCII and BCD Code
2. Explain 1's complement method of binary subtraction (Give one example)
3. Explain the conversion of binary number system to hexadecimal number system
4. Write rules of binary addition and substraction.

Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR(EMPOWERED AUTONOMOUS)
Department of Electronics
B.Sc. I Sem I Internal Exam Attendance 2024-25
Paper: Digital Electronics I Date: 05/10/2024

SrNo	PRN	Roll No	StudentName	Sign
1	2024037210	7210	SAYYAD ARFA PARVEJ	Ab
2	2024037211	7211	SHAIKH ALISHA YASIN	Ab
3	2024037229	7229	ADISARE GANESH DILIP	Ab
4	2024037230	7230	DIXIT SAMRUDDHI SATYA	Dixit
5	2024037231	7231	MULLA SAJID FIROJ	
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8	2024037234	7234	RAM ARCHANAKUMARI DAROGA	Ab
9	2024037235	7235	GHATGE RANJIT SACHIN	Ab
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11	2024037237	7237	KUMBHAR ADITI SANDIP	Kumbhar.
12	2024037238	7238	METHE NIKHIL KRISHNAT	Ab
13	2024037239	7239	PATIL AMIT SADASHIV	Apatil
14	2024037240	7240	PATIL OMKAR BHAUSO	Ab
15	2024037241	7241	POWAR SAMRUDDHI KRUSHNAT	Powar.
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35	2024037280	7280	THORAWADE SHIVRAJ RAMCHANDRA	S.R.Thorawade
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43	2024037288	7288	KOLI SAMIKSHA SANTOSH	Present.
44	2024037289	7289	KUMBHAR GOURI TANAJI	Gambk
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52	2024037529	7529	SHINDE SHREEYASH FIRO	Ab
53	2024037530	7530	KADAM PAVAN BAJIRAO	Ab
54	2024037539	7539	BELEKAR SHUBHAM ANI	Ab

(Teacher Incharge)

10/10

।। ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ।।
- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

39989

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

SUPPLIMENT

NAME: Aditi Sandip Kumbhar.

Suppliment No. : 01

Roll No. : 7237

Class : BSC I

Signature of Supervisor

Subject : Digital Electronics

~~Test / Tutorial No.~~ :

Subject code: 2DSC03ELE12

Div. :

Q. 1]

① The base of the hexadecimal number system is 16. 1

② What does ASCII stand for

a) American standard code for information Interchange 1

Q. 2]

② ① In a binary substraction there is two methods one is 1's (one's) complement and another is 2's (Two's Complement.

② In method of 1's complement we have two binary numbers given for substraction such that- 04

$$\begin{array}{r} 1010 \\ -\ 1101 \\ \hline \end{array}$$

③ During using 1's complement method we rewrite fist binary number as it is and take 1's complement of second binary number. generally we took inversion of each binary digit in second number.

Such as -

$$\begin{array}{r} 1010 \\ +\ 0010 \\ \hline \end{array}$$ — as it is

— by 1's complement

④ After taking 1's complement we add these two binary numbers following the rules of binary addition.

$$\begin{array}{r} 1010 \\ +\ 0010 \\ \hline \boxed{\ }1100 \end{array}$$

no carry ←

⑤ If ~~there~~ is we get carry in the end add this carry in final answer and if there is no carry found take ones again 1's complement of it.

Such as

$$\begin{array}{r} 1010 \\ +\ 0010 \\ \hline \boxed{\ }1.100 \end{array}$$

taking 1's complement - answer - 0011.

Ex :- -1111

$0010 \xrightarrow{1's}$

$$\begin{array}{r} 1111 \\ +\ 1101 \\ \hline \boxed{1}1100 \\ \text{carry} + \\ \hline 1101 \end{array}$$

⑥ If we do not get carry that means answer is negative.

3] ① In case of studing binary to hexadecimal conversion. we explain and understand by taking example of it.

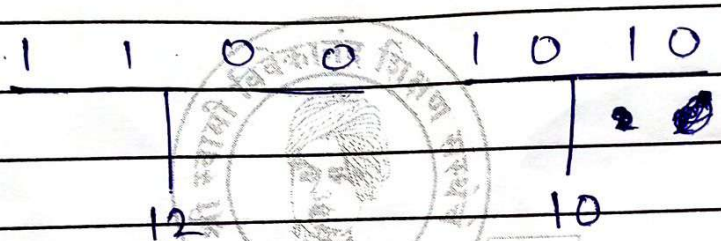
ex.

1 1 0 0 1 0 1 0

② step 1 ∴ Make four digit groups of given binary number

1 1 0 0 1 0 1 0

③ Step 2 ∴ convert it in Decimal values



④ Step 3 ∴ convert it in hexadecimal number system.

= C A

⑤ In time when making groups there is necessary of bits we can add '0' in left or right.

4] ① Addition rule for binary numbers.

Shree Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Class: B.Sc.-I, Semester-I,

Course code: 2DSCO3ELE11 **Subject**: Analog Electronics

Time: 11:50 am to 12:20 pm **Marks**: 10 **Date**:-4/10/2024

Q.1.Select the Correct alternative **[2M]**

i. Preset is the ……..resistor.

a) film b) fixed c) variable d) none of these

ii. Electrically operated switch is ……

a) transformer b) relay c) fuse d) inductor

Q.2 .Attempt any Two (Four mark each) **[8 M]**

i. Write a note on Capacitor.

ii. Give classification of resistors and explain carbon composition of resistor.

iii. Explain construction and working of electromagnetic relay.

iv. Explain different types of inductors.

Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR(EMPOWERED AUTONOMOUS)
Department of Electronics
B.Sc. I Sem I Internal Exam Attendance 2024-25
Paper: Analog Electronics I Date: 04/10/2024

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(Teacher Incharge)

10/10

Signature of Jr. Super.

Date : 04/10/2024

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

विवेकानंद कॉलेज, कोल्हापूर. (अधिकरप्रदत्त स्वायत्त)

Practical Examination in, ~~परीक्षा~~ नाव - अदिती संदिप कुंभार. या विषयाच्या प्रयोग परीक्षा

~~at the~~ Course code : 2DSC03ELE11 Examination

उमेदवाराचा आसन क्रमांक (Candidate's Seat No.) 7237

विभाग (Section)

उमेदवारांना सूचना

१. प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
२. उपकरणांच्या वापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
३. कोणताही विद्युतप्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्यानंतर पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
४. सर्व निरीक्षणे कोटकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे क्य तितक्या सुवाच्चपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
५. प्रारंभिक किंवा अंतिम निरीक्षणात संख्यावाचक आकडे एकावर एक लिहू नयेत. जर लिहिलेला कोणताही आकडा नको असेल तर त्यावर एक रेघ ओढून पाहिजे असलेला आकडा त्याच्याजवळ लिहा. प्रयोगशाळेतून बाहेर पडण्यापूर्वी आपले टेबल चांगल्या स्थितीत आहे याची खात्री करा.

INSTRUCTIONS TO CANDIDATES

1. Read the question carefully and perform the experiment as required.
2. If there by anything the apparatus that you do not know, ask the examiner or the laboratory assistant to help you.
3. Before doing any electrical experiment, it is absolutely essential that you make a neat working sketch of all apparatus actually provided and of the necessary connection and obtain the examiner's permission to proceed.
4. Express all observations in a tabular form. It is also desirable that all intermediate calculations and results should be entered as neatly and clearly as possible.
5. No numerical figures should be written over either in the preliminary or final observations. If any figure is shought to be discarded it should be run through and the desired figure written near to it.
6. Please see that your table is in good order before you leave the laboratory.

(येथून लेखनास सुरवात करा.) (Begin writing here.)

प्र. क्र. Q. No.	
	1]
	(a) ~~(c) variable~~
	~~(b) relay~~
	(i) Preset is the variable resistor. 1
	(ii) Electrically operated switch is relay. 1

02 Section | Q. No. | Marks

प्र. क्र. Q. No.

Q]

i) ① Capacitor :-

Capacitor is a component of circuit which has capacity of store energy in the form of electricity & producing charge across two conducting plates.

② the symbol of capacitor is -

③ Capacity to store energy is called capacitance of a capacitor. capacitance measured in wats.

④ In the parallel joining of capacitor overall capacitance measured by this formula -

$$C_T = C_1 + C_2 + C_3 \cdots C_n$$

⑤ In the series combination capacitance measured by this one

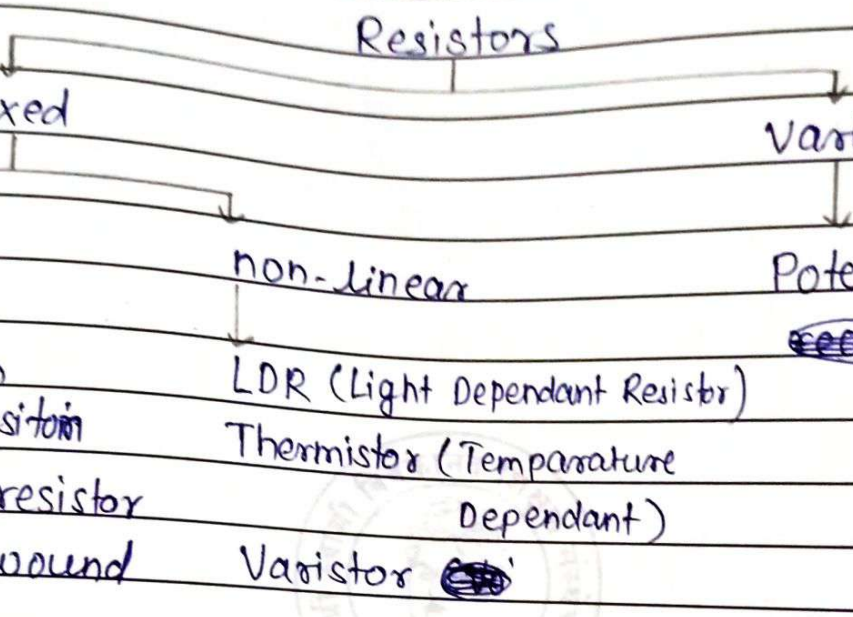
$$C_T = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} \cdots \frac{1}{C_n}$$

⑥ Capacitors made up from two conducting metal plates, metal ends for electric connection and seprated by insulating material like mica, ceramic, waxed pepar etc.

Section | Q. No. | Marks | 03

प्र. क्र. Q. No.

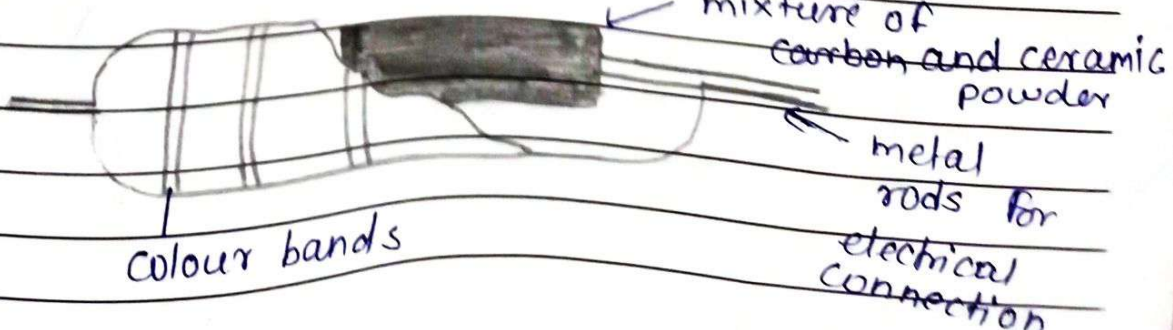
ii ① Classification of resistors



② Carbon composition resistor :-

① Carbon composition resistor made up from mixture of carbon power, ceramic powder (used as insulator) cotated over a metal rod whose two ends free for electical connection. this whole system cotaed by insulating paint and colour code over paint it two find the value of resistance.

② normally it's resistivity is start from $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}, 2W$ ·2W is its maximum resistivity.



Name - Gouri Tanaji Kumbhar
Course code - 2DSC03ELE11
Subject - Analog Electronics

0786

9/10

Signature of Jr. Super.

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

विवेकानंद कॉलेज, कोल्हापूर. (अधिकरप्रदत्त स्वायत्त)

परीक्षेच्या _____ या विषयाच्या प्रयोग परीक्षा

Practical Examination in, _____

at the _____ Examination

उमेदवाराचा आसन क्रमांक 7289
(Candidate's Seat No.)

विभाग
(Section)

उमेदवारांना सूचना

१. प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
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४. सर्व निरीक्षणे कोटकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे क्य तितक्या सुवाच्चपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
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(येथून लेखनास सुरवात करा.) (Begin writing here.)

प्र. क्र.
Q. No.

Q.1.

i) Preset in the variable resistor.

ii) Electrically operted wh switch is fuse.

02 Section | Q. No. | Marks

प्र. क्र.
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Q 2.

i)

→ Capacitor -

I) The capacitor component having ability or "capacity" to store electrical energy in the electrical field.

II) Capacitor is passive component.

III) formula is - $C = \frac{\varepsilon A}{d}$

∴ d = distance
A = Area
ε = permitivity

IV) Types of capacitors -

i) Fixed capacitor

→ 1) Non-polar capacitor

Plastic | Mica | ceremic | Paper

→ 2) Polar capacitor

Aluminum

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ii) Variable capacitor

Air - gone capacitor.

v) Energy do not converted into one another.

vi) Capacitor ~~have~~ do not having external supply.

ii) Classification of Resistor :

Resistor

- Linear Resistor (obeys ohm law)
  - Fixed Resistor
    - i) Carbon composition
    - ii) Wire wound
    - ii) Film type
  - Variable Resistor
    - i) Rheostat
    - ii) Potentiometer (Pot)
    - iii) Trimmers
- Non-linear Resistor (do not obeys ohm law)
  - Thermistor
  - LDR (Light dependent Resistor)
  - varistor

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Carbon Compotition resistor

I) Carbon composition resistor made of carban case covered ~~wi~~ made of tined wire

II) Average value is 1Ω to 200k

III) Average ~~rang~~ range 0.125W, 0.25W, 0.5W, 1W, 2,W, 10W etc.

Advantage of Carbon composition resistor -

I) low cost

II) durable to. (long life use)

III) easily avilable in market.

Disadvantages of carbon compsition resistor -

I) Very sensitive

diagram -