

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR

(AN EMPOWERED AUTONOMOUS INSTITUTE)

Department of Electronics

Unit Test 1 for B.Sc. I

Paper II: Digital Electronics I (3DSC03ELE12)

**Topic: Number System, Binary code and
Binary Arithmetics**

Date: Thursday, 10/09/2026

**Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR
(AN EMPOWERED AUTONOMOUS INSTITUTE)**

Department of Electronics

Unit Test I

B.Sc. I

Notice



Date 05/09/2026

All the students of above class are hereby informed that, their 20 marks unit tests of topic I of Paper I and Paper II are scheduled on following dates. Kindly take a note and attend the same without fail.

Sr. No.	Paper No	Course Name and Code	Name of the Topic	Day and Date	Time
1	II	Digital Electronics I (3DSC03ELE12)	Number System, Binary codes and Binary Arithmetics	Thursday, 10/09/2026	1.10pm to 2.00pm
2	I	Analog Electronics I (3DSC03ELE11)	Basic Circuit Elements	Friday, 11/09/2026	1.10pm to 2.00pm


Head
DEPARTMENT OF ELECTRONICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Question Paper Pattern

Q.1 Select the correct alternatives (4 Marks)

1 -----

2 -----

3 -----

4 -----

Q.2 Attempt any one of the following (8 Marks)

1

2

Q.3 Attempt any two of the following (8 Marks)

1

2

3

4

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur

(An Empowered Autonomous Institute)

Unit Test-I

Course Code and Name: 3DSC03ELE12: Digital Electronics-I

Time: 1.10pm to 02:00 pm

Date: 10/09/2026

Marks: 20

Q.1. Select the correct alternatives

[4M]

1. Base 10 refers to which number system?
a) hexadecimal b) octal c) decimal d) binary code
2. 2's complement of 0001 is _____
a) 1111 b) 1010 c) 1001 d) 1011
3. What does EBCDIC stands for.....
a) Extended binary coded decimal interchange code for information interchange
b) Extended bit coded decimal interchange code for information interchange
c) Extended binary coded decimal code for information exchange
d) none of these
4. ASCII isbit code
a) 7 b) 8 c) 10 d) 12

Q.2. Attempt any ONE or the following (8 Marks each)

[8 M]

1. Explain different number systems used in digital computer with an example.
2. Explain 1's complement method of subtraction with an example

Q.3. Attempt any TWO or the following (4 Marks Each)

[8 M]

1. Write rules of binary addition and subtraction.
2. Write a note on BCD code.
3. Write a note on Excess 3 Code

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 Department of Electronics
B.Sc. I (NEP 3.0) Unit Test I : Attendance Sheet
Paper II: Digital Electronics I

Sr No	Roll No	G en	Student Name	Subject Group	Digital Electronics I (3DSC03ELE12)
					10/9/2026
1	7201		ADAKE PRANAV SUKUMAR	PCE	AB
2	7202	*	BAGWAN KHANSA ASHPAK	PCE	AB
3	7203		BAMANIKAR HARSHAWARDHAN ANIL	PCE	AB
4	7204		BENAKE PRITHVIRAJ RAJESH	PCE	AB
5	7205		BHISE KUNAL AMAR	PCE	AB
6	7206	*	BHOI SAMARUDDHI SAMPAT	PCE	SBH
7	7207	*	BHOSALE RIYA AMAR	PCE	Riya
8	7208		BHOSALE SANSKAR BAJIRAO	PCE	SBH
9	7209	*	BIDKAR SAE SHIRISH	PCE	Sae Bidkar
10	7211		CHAVAN TANISHQ YUVRAJ	PCE	AB
11	7212		DAVARE RAJ SURESH	PCE	DR
12	7213		DHALE SIDDHARTH SUHAS	PCE	Suhas
13	7214		GAWADE GOVIND BABURAO	PCE	AB
14	7215	*	GHORPADE RASIKA RAJENDRA	PCE	Rika
15	7216		GURAV VEDANT PRAVIN	PCE	AB
16	7217	*	HAJARE APEKSHA SHIVAJI	PCE	Ash
17	7218		INGALE PURVA MAHESH	PCE	AB
18	7219	*	KAMANNA POURNIMA RAYGONDA	PCE	P.R.K
19	7220		KAMBLE ABHISHEK TUKARAM	PCE	Abhishek
20	7221		KAMBLE ALOK AKSHAY	PCE	AB
21	7222	*	KAMBLE ANJALI ARUN	PCE	Anjali
22	7223		KAMBLE HARSH MILIND	PCE	Harsh
23	7224		KAMBLE VEDANT DEEPAK	PCE	AB
24	7225	*	KASBE SIYONA PRAVIN	PCE	AB

Sr No	Roll No	G e n	Student Name	Subject Group	Digital Electronics I (3DSC03ELE12)
					10/9/2026
25	7226		KOLI SANDIP DILIP	CsME	<i>SDKoli</i>
26	7227	*	KOTHALE ARATI VIDYASAGAR	PCE	AB
27	7228		KSHIRSAGAR JAYESH MOHAN	PCE	<i>Jkshirsagar</i>
28	7229	*	KUMBHAR SNEHA SACHIN	PCE	AB
29	7230		KURANE SHUBHAM SURESH	PCE	<i>KS</i>
30	7231		MAJGAONKAR PARTH SANJAY	PCE	AB
31	7232		MAKANDAR AFTAB JAMALDIN	PCE	AB
32	7233		MALAGE MANAS ARUN	PCE	<i>Manalage</i>
33	7234		MANE SAIRAJ AMOL	PCE	AB
34	7235	*	MITAKE BHAKTI SATISH	PCE	<i>Bam</i>
35	7236	*	MORE RIYA PRAKASH	PCE	AB
36	7237		MUJAWAR MAHAMADSAAD SHAKIL	PCE	<i>M. Saadkimiawar</i>
37	7238		MUJAWAR NAWAJ AKRAM	PCE	AB
38	7239		MUJAWAR RIJWAN RIYAJ	PCE	<i>Rijwan</i>
39	7240		PARULEKAR JAY UMESH	PCE	<i>Jayulekar</i>
40	7241		PARVATGOSAVI SHRENIK MAHESH	PCE	AB
41	7242		PATIL DARSHANA SUMIT	PCE	AB
42	7243		PATIL HARDIK SUBHASH	PCE	AB
43	7244		PATIL OMKAR SANDIP	PCE	AB
44	7245	*	PATIL SANCHITA SUBHASH	PCE	<i>Sanchita</i>
45	7246		PATIL SHREYASH EKNATH	PCE	<i>Shreyash</i>
46	7247	*	PATOLE VEDIKA SUBHASHCHANDRA	PCE	<i>Patole</i>
47	7248		PAWAR Koustubh Haridas	PCE	<i>Koustubh P.</i>
48	7249		SHINDE PRAKASH SHAMRAO	PCE	AB
49	7250	*	SHINDE SHUBHADA PAVAN	PCE	<i>Shinde</i>
50	7251		SIDDHANURLE SAMARTH DHANAJI	PCE	AB
51	7252		SWAMI HARSHAL SANDEEP	PCE	AB
52	7253		TODKAR OM AMAR	PCE	<i>oat</i>

Sr No	Roll No	G en	Student Name	Subject Group	Digital Electronics I (3DSC03ELE12)
					10/9/2026
53	7295		MHAKAVE HARSHAD SANJAY	PCE	AB
54	7314		ATHAVALE CLARUS DHIRAJ	CsES	<u>Clarus</u>
55	7315		DHOLE SHIVRAJ BAJIRAO	CsES	AB
56	7316		JADHAV KASBEKAR ISHAN CHANDRASHEKHAR	CsES	AB
57	7317	*	JADHAV PRANALI YUVARAJ	CsES	<u>Pranali</u>
58	7318	*	KHEDKAR VAIBHAVI PRADIP	CsES	<u>VPK</u>
59	7319	*	KOTHAWALE NIDHI ANIL	CsES	<u>NKothawale</u>
60	7320		PATHARVAT SAKSHAM VITTHAL	CsES	AB
61	7321	*	PATIL AARATI DHANAJI	CsES	<u>Apatil</u>
62	7322	*	PATIL ARUNDHATI ANIL	CsES	<u>Patil</u>
63	7323	*	PATIL SHRADDHA KRISHNAT	CsES	AB
64	7324	*	SAWANT JINAL PRALHAD	CsES	<u>Sawant</u>
65	7325	*	SHINDE ANKITA POPAT	CsES	<u>Ashinde</u>
66	7326	*	SURYAWANSHI SAMIKSHA JOTIRAM	CsES	AB
67	7327	*	TANVI SHITAL GIRI	CsES	<u>Giri</u>
68	7329		BHARMAL RUSHIKESH PRAKASH	CsME	AB
69	7330	*	BUCHADE SAKSHI VIJAY	CsES	<u>Buchade</u>
70	7331	*	GAVADE SIMRAN DAJI	CsME	AB
71	7332	*	JADHAV SHREYA SARJERAO	CsES	<u>Shreya</u>
72	7333	*	KAMBLE AKSHARA AMAR	CsME	<u>Akambale</u>
73	7334	*	KAMBLE SAMRUDDHI SURESH	CsME	<u>Samr</u>
74	7335		KAMBLE SIDDHARTH PRAKASH	CsME	AB
75	7336		KAMBLE TANMAY SANDEEP	CsME	<u>Tan</u>
76	7337	*	KATKAR HARSHADA SANTOSH	CsME	<u>Hkatkar</u>
77	7338		KESARKAR OMKAR PANDURANG	CsME	AB
78	7339		KHAN ALIHUSSEN GULAMALI	CsME	<u>Ali</u>
79	7340	*	LOLE SANCHITA SACHIN	CsME	<u>Sslele</u>
80	7341		MALANDKAR ATHARV VIDYADHAR	CsME	<u>Atharv</u>

Sr No	Roll No	Gen	Student Name	Subject Group	Digital Electronics I (3DSC03ELE12)
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81	7342	*	MANE MADHURA SANDIP	CsME	<u>Mane</u>
82	7343		MITHARI VARAD VINOD	CsME	<u>Mithari</u>
83	7344	*	MUDGAL SHRAVANI CHANDRAKANT	CsME	AB
84	7345	*	PATIL ANKITA SAGAR	CsME	<u>Patil</u>
85	7346		PATIL ATHARV MANIKARAV	CsME	<u>Patil</u>
86	7347	*	PATIL SAGRIKA ASHOK	CsME	<u>Patil</u>
87	7348	*	PATIL SHREYA SATAPPA	CsME	<u>Patil</u>
88	7349		PATIL VIRAJ SANGRAM	CsME	AB
89	7350		SHINDE SAIRAJ SACHIN	CsME	<u>Sairaj</u>
90	7351		SHINDE SIDDHESH SANDIP	CsME	<u>Shinde</u>
91	7352		SUTAR KUNAL VIKAS	CsME	<u>Sutar</u>
92	7353		VANJIRE SIDDHARTH SUDHIR	CsME	<u>Vanjire</u>
93	7354		VARUTE SAMARTH SARDAR	CsME	<u>Varute</u>
94	7370		NARUTE MANGESH SANTOSH	CsES	<u>Narute</u>
95	7371	*	NIUNGARE SAMIKSHA NETAJI	CsES	<u>Niungare</u>
96	7373		PATIL VIRAJ PRAMOD	CsES	AB
97	7528		JADHAV PARTH PRAKASH	PCE	AB
98	7537		PATIL OMKAR SHIVAJI	PCE	AB
99	7539		KUMBHAR ADITYA DATTATRAY	PCE	AB
100	7541		POWAR PRUTHVIRAJ CHANDRAKANT	PCE	<u>Powar</u>
101	7543		PATIL SOHAN UMAJI	PCE	AB
102	7554		LOHAR SUTAR SHASHANK SANTOSH	PCE	AB
103	7555		PATIL ADITYA SACHIN	PCE	<u>Patil</u>
104	7557		GHOSALKAR ADITYA KIRAN	PCE	AB
105	7558		SHAIKH RIHAN RAJU	PCE	AB
106	7559		MESE HARSHVARDHAN MAHASIDDH	CsES	AB
107	7560		MALI VIVEK LAXMAN	PCE	<u>Mali</u>
108	7561		SAWANT DHAIRYASHEEL SARJERAO	PCE	<u>Sawant</u>

Sr No	Roll No	G e n	Student Name	Subject Group	Digital Electronics I (3DSC03ELE12)
					10/9/2026
109	7562	*	WANDRE JANHAVI RANJIT	PCE	<u>Wandre</u>
110	7564		REVANDKAR ATHARV MAHESH	PCE	<u>Atharv MR</u>
111	7565		KUMBHAR SUNNY RAJARAM	PCE	<u>SK Kumbhar</u>
112	7566		PATIL ADITYA MAHAVIR	CSES	<u>AB</u>
113	7571		Khormalapure Avaddhoot Balaji	PCE	<u>AB Khormalapure</u>
114					

Teacher Incharge : T. Jadhav
(Dg. P.S. Jadhav)

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2	7202	*	BAGWAN KHANSA ASHPAK	PCE	AB	Absent
3	7203		BAMANIKAR HARSHAWARDHAN ANIL	PCE	AB	Absent
4	7204		BENAKE PRITHVIRAJ RAJESH	PCE	AB	Absent
5	7205		BHISE KUNAL AMAR	PCE	AB	Absent
6	7206	*	BHOI SAMARUDDHI SAMPAT	PCE	8	Pass Class
7	7207	*	BHOSALE RIYA AMAR	PCE	9	Pass Class
8	7208		BHOSALE SANSKAR BAJIRAO	PCE	8	Pass Class
9	7209	*	BIDKAR SAE SHIRISH	PCE	4	Fail Class
10	7211		CHAVAN TANISHQ YUVRAJ	PCE	AB	Absent
11	7212		DAVARE RAJ SURESH	PCE	7	Pass Class
12	7213		DHALE SIDDHARTH SUHAS	PCE	4	Fail Class
13	7214		GAWADE GOVIND BABURAO	PCE	AB	Absent
14	7215	*	GHORPADE RASIKA RAJENDRA	PCE	8	Pass Class
15	7216		GURAV VEDANT PRAVIN	PCE	AB	Absent
16	7217	*	HAJARE APEKSHA SHIVAJI	PCE	8	Pass Class
17	7218		INGALE PURVA MAHESH	PCE	AB	Absent
18	7219	*	KAMANNA POURNIMA RAYGONDA	PCE	8	Pass Class
19	7220		KAMBLE ABHISHEK TUKARAM	PCE	8	Pass Class
20	7221		KAMBLE ALOK AKSHAY	PCE	AB	Absent
21	7222	*	KAMBLE ANJALI ARUN	PCE	19	Distinction
22	7223		KAMBLE HARSH MILIND	PCE		Fail Class
23	7224		KAMBLE VEDANT DEEPAK	PCE		Absent
24	7225	*	KASBE SIYONA PRAVIN	PCE		Absent

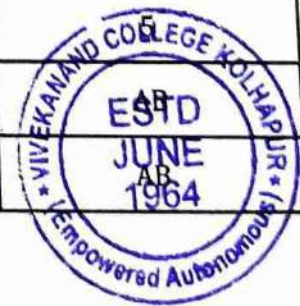


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27	7228		KSHIRSAGAR JAYESH MOHAN	PCE	8	Pass Class
28	7229	*	KUMBHAR SNEHA SACHIN	PCE	AB	Absent
29	7230		KURANE SHUBHAM SURESH	PCE	5	Fail Class
30	7231		MAJGAONKAR PARTH SANJAY	PCE	AB	Absent
31	7232		MAKANDAR AFTAB JAMALDIN	PCE	AB	Absent
32	7233		MALAGE MANAS ARUN	PCE	8	Pass Class
33	7234		MANE SAIRAJ AMOL	PCE	AB	Absent
34	7235	*	MITAKE BHAKTI SATISH	PCE	9	Pass Class
35	7236	*	MORE RIYA PRAKASH	PCE	AB	Absent
36	7237		MUJAWAR MAHAMADSAAD SHAKIL	PCE	8	Pass Class
37	7238		MUJAWAR NAVAJ AKRAM	PCE	AB	Absent
38	7239		MUJAWAR RIJWAN RIYAJ	PCE	6	Fail Class
39	7240		PARULEKAR JAY UMESH	PCE	14	Distinction
40	7241		PARVATGOSAVI SHRENIK MAHESH	PCE	AB	Absent
41	7242		PATIL DARSHANA SUMIT	PCE	AB	Absent
42	7243		PATIL HARDIK SUBHASH	PCE	AB	Absent
43	7244		PATIL OMKAR SANDIP	PCE	AB	Absent
44	7245	*	PATIL SANCHITA SUBHASH	PCE	2	Fail Class
45	7246		PATIL SHREYASH EKNATH	PCE	4	Fail Class
46	7247	*	PATOLE VEDIKA SUBHASHCHANDRA	PCE	2	Fail Class
47	7248		PAWAR KOUSTUBH HARIDAS	PCE	3	Fail Class
48	7249		SHINDE PRAKASH SHAMRAO	PCE	AB	Absent
49	7250	*	SHINDE SHUBHADA PAVAN	PCE	7	Pass Class
50	7251		SIDDHANURLE SAMARTH SHANAJI	PCE	AB	Absent
51	7252		SWAMI HARSHAL SANDEEP	PCE	AB	Absent
52	7253		TODKAR OM AMAR	PCE	5	Fail Class



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3	7203		BAMANIKAR HARSHAWARDHAN ANIL	PCE	AB	Absent
4	7204		BENAKE PRITHVIRAJ RAJESH	PCE	AB	Absent
5	7205		BHISE KUNAL AMAR	PCE	AB	Absent
6	7206	*	BHOI SAMARUDDHI SAMPAT	PCE	8	Pass Class
7	7207	*	BHOSALE RIYA AMAR	PCE	9	Pass Class
8	7208		BHOSALE SANSKAR BAJIRAO	PCE	8	Pass Class
9	7209	*	BIDKAR SAE SHIRISH	PCE	4	Fail Class
10	7211		CHAVAN TANISHQ YUVRAJ	PCE	AB	Absent
11	7212		DAVARE RAJ SURESH	PCE	7	Pass Class
12	7213		DHALE SIDDHARTH SUHAS	PCE	4	Fail Class
13	7214		GAWADE GOVIND BABURAO	PCE	AB	Absent
14	7215	*	GHORPADE RASIKA RAJENDRA	PCE	8	Pass Class
15	7216		GURAV VEDANT PRAVIN	PCE	AB	Absent
16	7217	*	HAJARE APEKSHA SHIVAJI	PCE	8	Pass Class
17	7218		INGALE PURVA MAHESH	PCE	AB	Absent
18	7219	*	KAMANNA POURNIMA RAYGONDA	PCE	8	Pass Class
19	7220		KAMBLE ABHISHEK TUKARAM	PCE	8	Pass Class
20	7221		KAMBLE ALOK AKSHAY	PCE	AB	Absent
21	7222	*	KAMBLE ANJALI ARUN	PCE	19	Distinction
22	7223		KAMBLE HARSH MILIND	PCE		Fail Class
23	7224		KAMBLE VEDANT DEEPAK	PCE		Absent
24	7225	*	KASBE SIYONA PRAVIN	PCE		Absent



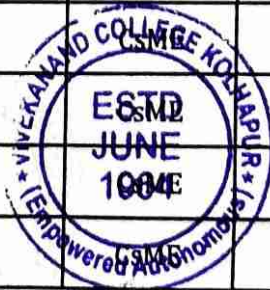
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29	7230		KURANE SHUBHAM SURESH	PCE	5	Fail Class
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37	7238		MUJAWAR NAVAJ AKRAM	PCE	AB	Absent
38	7239		MUJAWAR RIJWAN RIYAJ	PCE	6	Fail Class
39	7240		PARULEKAR JAY UMESH	PCE	14	Distinction
40	7241		PARVATGOSAVI SHRENIK MAHESH	PCE	AB	Absent
41	7242		PATIL DARSHANA SUMIT	PCE	AB	Absent
42	7243		PATIL HARDIK SUBHASH	PCE	AB	Absent
43	7244		PATIL OMKAR SANDIP	PCE	AB	Absent
44	7245	*	PATIL SANCHITA SUBHASH	PCE	2	Fail Class
45	7246		PATIL SHREYASH EKNATH	PCE	4	Fail Class
46	7247	*	PATOLE VEDIKA SUBHASHCHANDRA	PCE	2	Fail Class
47	7248		PAWAR Koustubh Haridas	PCE	3	Fail Class
48	7249		SHINDE PRAKASH SHAMRAO	PCE	AB	Absent
49	7250	*	SHINDE SHUBHADA PAVAN	PCE	7	Pass Class
50	7251		SIDDHANURLE SAMARTH SHANAJI	PCE	AB	Absent
51	7252		SWAMI HARSHAL SANDEEP	PCE	AB	Absent
52	7253		TODKAR OM AMAR	PCE	5	Fail Class



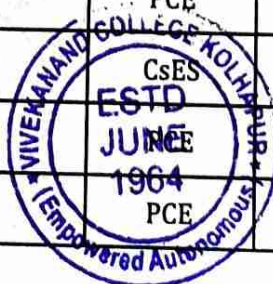
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					10/9/2026	
81	7342	*	MANE MADHURA SANDIP	CsME	16	Distinction
82	7343		MITHARI VARAD VINOD	CsME	14	Distinction
83	7344	*	MUDGAL SHRAVANI CHANDRAKANT	CsME	AB	Absent
84	7345	*	PATIL ANKITA SAGAR	CsME	7	Pass Class
85	7346		PATIL ATHARV MANIKARAV	CsME	3	Fail Class
86	7347	*	PATIL SAGRIKA ASHOK	CsME	9	Pass Class
87	7348	*	PATIL SHREYA SATAPPA	CsME	3	Fail Class
88	7349		PATIL VIRAJ SANGRAM	CsME	AB	Absent
89	7350		SHINDE SAIRAJ SACHIN	CsME	8	Pass Class
90	7351		SHINDE SIDDHESH SANDIP	CsME	8	Pass Class
91	7352		SUTAR KUNAL VIKAS	CsME	10	Second Class
92	7353		VANJIRE SIDDHARTH SUDHIR	CsME	10	Second Class
93	7354		VARUTE SAMARTH SARDAR	CsME	5	Fail Class
94	7370		NARUTE MANGESH SANTOSH	CsES	0	Fail Class
95	7371	*	NIUNGARE SAMIKSHA NETAJI	CsES	6	Fail Class
96	7373		PATIL VIRAJ PRAMOD	CsES	AB	Absent
97	7528		JADHAV PARTH PRAKASH	PCE	AB	Absent
98	7537		PATIL OMKAR SHIVAJI	PCE	AB	Absent
99	7539		KUMBHAR ADITYA DATTATRAY	PCE	AB	Absent
100	7541		POWAR PRUTHVIRAJ CHANDRAKANT	PCE	2	Fail Class
101	7543		PATIL SOHAN UMAJI	PCE	AB	Absent
102	7554		LOHAR SUTAR SHASHANK SANTOSH	PCE	AB	Absent
103	7555		PATIL ADITYA SACHIN	PCE	9	Pass Class
104	7557		GHOSALKAR ADITYA KIRAN	PCE	AB	Absent
105	7558		SHAIKH RIHAN RAJU	PCE	AB	Absent
106	7559		MESE HARSHVARDHAN MAHASIDDH	CsES	AB	Absent
107	7560		MALI VIVEK LAXMAN	PCE	9	Pass Class
108	7561		SAWANT DHAIRYASHEEL SARJERAO	PCE	8	Pass Class



Sr No	Roll No	G en	Student Name	Subject Group	Marks Obtained (20)	Remark
					10/9/2026	
53	7295		MHAKAVE HARSHAD SANJAY	PCE	AB	Absent
54	7314		ATHAVALE CLARUS DHIRAJ	CsES	8	Pass Class
55	7315		DHOLE SHIVRAJ BAJIRAO	CsES	AB	Absent
56	7316		JADHAV KASBEKAR ISHAN CHANDRASHEKHAR	CsES	AB	Absent
57	7317	*	JADHAV PRANALI YUVARAJ	CsES	19	Distinction
58	7318	*	KHEDKAR VAIBHAVI PRADIP	CsES	19	Distinction
59	7319	*	KOTHAWALE NIDHI ANIL	CsES	14	Distinction
60	7320		PATHARVAT SAKSHAM VITTHAL	CsES	AB	Absent
61	7321	*	PATIL AARATI DHANAJI	CsES	20	Distinction
62	7322	*	PATIL ARUNDHATI ANIL	CsES	14	Distinction
63	7323	*	PATIL SHRADDHA KRISHNAT	CsES	AB	Absent
64	7324	*	SAWANT JINAL PRALHAD	CsES	13	First Class
65	7325	*	SHINDE ANKITA POPAT	CsES	19	Distinction
66	7326	*	SURYAWANSHI SAMIKSHA JOTIRAM	CsES	8	Pass Class
67	7327	*	TANVI SHITAL GIRI	CsES	13	First Class
68	7329		BHARMAL RUSHIKESH PRAKASH	CsME	AB	Absent
69	7330	*	BUCHADE SAKSHI VIJAY	CsES	19	Distinction
70	7331	*	GAVADE SIMRAN DAJI	CsME	AB	Absent
71	7332	*	JADHAV SHREYA SARJERAO	CsES	12	First Class
72	7333	*	KAMBLE AKSHARA AMAR	CsME	10	Second Class
73	7334	*	KAMBLE SAMRUDDHI SURESH	CsME	20	Distinction
74	7335		KAMBLE SIDDHARTH PRAKASH	CsME	AB	Absent
75	7336		KAMBLE TANMAY SANDEEP	CsME	5	Fail Class
76	7337	*	KATKAR HARSHADA SANTOSH	CsME	5	Fail Class
77	7338		KESARKAR OMKAR PANDURANG	CsME	AB	Absent
78	7339		KHAN ALIHUSSEN GULAMALI	CsME	10	Second Class
79	7340	*	LOLE SANCHITA SACHIN	CsME	9	Pass Class
80	7341		MALANDKAR ATHARV VIDYADHAR	CsME	8	Pass Class



Sr No	Roll No	G e n	Student Name	Subject Group	Marks Obtained (20)	Remark
					10/9/2026	
81	7342	*	MANE MADHURA SANDIP	CsME	16	Distinction
82	7343		MITHARI VARAD VINOD	CsME	14	Distinction
83	7344	*	MUDGAL SHRAVANI CHANDRAKANT	CsME	AB	Absent
84	7345	*	PATIL ANKITA SAGAR	CsME	7	Pass Class
85	7346		PATIL ATHARV MANIKARAV	CsME	3	Fail Class
86	7347	*	PATIL SAGRIKA ASHOK	CsME	9	Pass Class
87	7348	*	PATIL SHREYA SATAPPA	CsME	3	Fail Class
88	7349		PATIL VIRAJ SANGRAM	CsME	AB	Absent
89	7350		SHINDE SAIRAJ SACHIN	CsME	8	Pass Class
90	7351		SHINDE SIDDHESH SANDIP	CsME	8	Pass Class
91	7352		SUTAR KUNAL VIKAS	CsME	10	Second Class
92	7353		VANJIRE SIDDHARTH SUDHIR	CsME	10	Second Class
93	7354		VARUTE SAMARTH SARDAR	CsME	5	Fail Class
94	7370		NARUTE MANGESH SANTOSH	CsES	0	Fail Class
95	7371	*	NIUNGARE SAMIKSHA NETAJI	CsES	6	Fail Class
96	7373		PATIL VIRAJ PRAMOD	CsES	AB	Absent
97	7528		JADHAV PARTH PRAKASH	PCE	AB	Absent
98	7537		PATIL OMKAR SHIVAJI	PCE	AB	Absent
99	7539		KUMBHAR ADITYA DATTATRAY	PCE	AB	Absent
100	7541		POWAR PRUTHVIRAJ CHANDRAKANT	PCE	2	Fail Class
101	7543		PATIL SOHAN UMAJI	PCE	AB	Absent
102	7554		LOHAR SUTAR SHASHANK SANTOSH	PCE	AB	Absent
103	7555		PATIL ADITYA SACHIN	PCE	9	Pass Class
104	7557		GHOSALKAR ADITYA KIRAN	PCE	AB	Absent
105	7558		SHAIKH RIHAN RAJU	PCE	AB	Absent
106	7559		MESE HARSHVARDHAN MAHASIDDH	CsES	AB	Absent
107	7560		MALI VIVEK LAXMAN	PCE	9	Pass Class
108	7561		SAWANT DHAIRYASHEEL SARJERAO	PCE	8	Pass Class

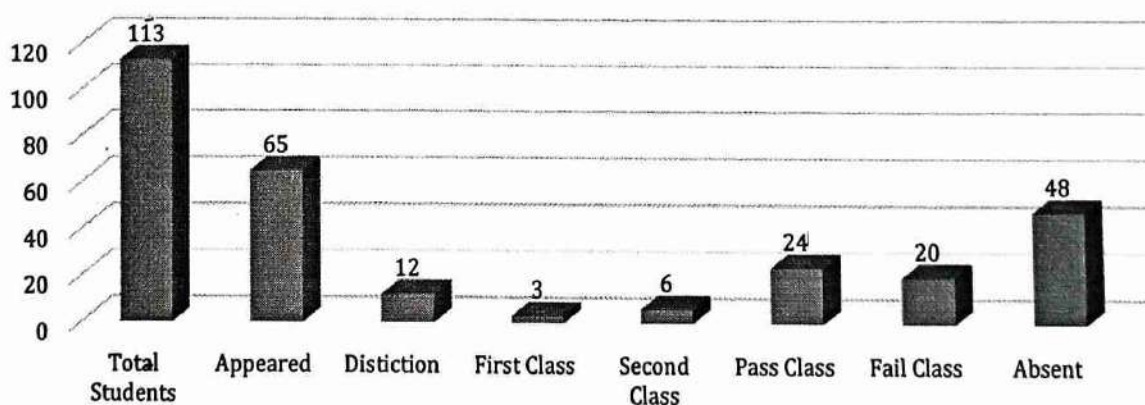


Sr No	Roll No	G e n	Student Name	Subject Group	Marks Obtained (20)	Remark
					10/9/2026	
109	7562	*	WANDRE JANHAVI RANJIT	PCE	11	Second Class
110	7564		REVANDKAR ATHARV MAHESH	PCE	6	Fail Class
111	7565		KUMBHAR SUNNY RAJARAM	PCE	11	Second Class
112	7566		PATIL ADITYA MAHAVIR	CsES	AB	Absent
113	7571		KHEMALAPURE AVADDHOOT BALAJI	PCE	6	Fail Class

Result Analysis

	Total Students	Appeared	Distiction	First Class	Second Class	Pass Class	Fail Class	Absent	Passing Percentage
Total Students	113	65	12	3	6	24	20	48	57.22%
Percentage	100	57.22	18.46	4.6	9.2	36.92	30.76	73.84	

Result Analysis B.Sc. I (NEP 3.0) Unit Test I Paper II: Digital Electronics I (3DSC03ELE12)



(Signature)
(Dr. P. S. Jadhav)
Teacher Incharge



(Signature)
(Dr. C. B. Patil)
HEAD
DEPARTMENT OF ELECTRONICS
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(EMPOWERED AUTONOMOUS)



(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

VIVEKANAND COLLEGE, KOLHAPUR.
(Empowered Autonomous)

SUPPLIMENT

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- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Jr. Supervisor's Sign. : I. Jale

Students Sign. : Harsh

Seat No. : 7222

Seat No. in words : Seven thousands two hundred and twenty two

Suppliment No. : 1

6995

Centre

प्र. क्र.

Q. No.

Q. 1)

1) c) decimal

2) a) 1111

3) a) Extended binary coded decimal Interchange code for information interchange.

4) a) 7

OK



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- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

VIVEKANAND COLLEGE, KOLHAPUR

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Student's Sign : Amble

Seat No./ Roll No. : 7222

Seat No./ Roll No. Seven thousands
In words two hundred and
twenty two.
06234

प्र. क्र.

Q. No.

2]

2. • 1's Complement of method of Binary Subtraction -
1's complement - In a given binary number one is replaced by zero and zero is replaced by one. The resultant is 1's complement of the given number.

Example $\rightarrow 1000 \rightarrow 0111$

Binary Subtraction method.

- It is very easy to determine.
- For Subtracting Smaller number from the larger number. So given rules as follows -

Example $\rightarrow$

- 1) firstly determine the 1's complement of the Smaller number.

Example $\rightarrow (1001) - (0101) =$

1's complement of $(0101) = 1010$

- 2) Add one's complement to the larger number.

$$\begin{array}{r} \therefore 1001 \\ - 1010 \\ \hline 100011 \end{array}$$

100011

02

Sector

Q No.

Marks

Q No.

Q No.

3) Add carry to its result. it is called end ground carry.

$$\begin{array}{r}
 1001 \\
 - 1010 \\
 \hline
 10011 \\
 + \rightarrow 1 \\
 1011 \\
 \hline
 10100
 \end{array}$$

As the carry is present, the Answer is positive.

$$\therefore + 0100$$

• For Subtracting larger number from the smaller number, so given rules as follows.

1) determine the 1's complement of the smaller number.

Example $(0101) - (1001) =$

$$\begin{array}{r}
 0101 \\
 - 1001 \\
 \hline
 0101 \\
 - 1010 \\
 \hline
 0101
 \end{array}$$

2) add 1's complement to the larger number

$$\begin{array}{r}
 1001 \\
 - 0110 \\
 \hline
 10011
 \end{array}$$

3) As the carry is absent, so answer is negative

$$\therefore -(1's \text{ complement of } 1011) = -0100$$

प्र. क्र.

Q. No.

Q. 3)

1. rules of binary addition.

A	B	Sum	Carry
0 + 0		0	0
0 + 1		1	0
1 + 0		1	0
1 + 1		0	1

• rules of binary subtraction.

A	B	Difference	Borrow
0 - 0		0	0
0 - 1		1	1
1 - 0		1	0
1 - 1		0	0

2. BCD code.

i) BCD is stands for 'Binary coded Decimal code'. In this code each of the decimal digit represented by a 4-bit binary number.

ii) BCD is way to express each of the decimal digit with 4 bit.

04

Section

Q. No.

Marks

प्र. क्र.

Q. No.

3)2) iii) In BCD code only first ten of these are used i.e. (0000 to 1001).
The remaining six code combination i.e. (1010 to 1111) are invalid in BCD code.

Disadvantages of BCD code -

- The addition and subtraction of BCD have different rules.
- The BCD arithmetic is little more complicated.
- The BCD needs more number of bits than binary to represent the binary number, so BCD is less efficient than Binary.



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(Empowered Autonomous)

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Seat No. : 7217

Seat No. in words : 305C03F112-Digital

Suppliment No. : 305C03F112-Digital
6968

Centre

08/20

Signature

Electronics

Electronics-I

प्र. क्र.

Q. No.

1. Base 10 refers to which number system?

→ a) decimal

2. 2's Complement of 0001 is ----

→ a) 1111

3. What does EBCDIC stand for ----

0 4 → b) Extended binary coded decimal interchange code for information interchange

4. ASCII is ---- bit code

→ a) 7

Q.2

1. Explain different number system used in digital computer with an example

2. Explain 1's Complement method of subtraction with an example.

Ans-1

प्र. क्र.

Q. No.

em 8-2

Q. 3

2) Write a note on BCD code

Binary Code decimal

0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0

use in alphanumeric
key board

example

[0011 0010 1001] ... []
3 2 8

Ans → [0011 0010 1001] ... [328]



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Unit 1

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Course code -
3DSC03ELE12

VIVEKANAND COLLEGE, KOLHAPUR.
(Empowered Autonomous)

SUPPLIMENT

Jr. Supervisor's Sign. :

Students Sign. :

Seat No. : 7319

Seat No. in words :

Suppliment No. : **Electronics - I**

6964

Centre

14
20

प्र. क्र.
Q. No.

Q1

1] Base 10 refers to which number system?

→ decimal

2] 2's complement of 0001 is .

→ 0001

1's complement = 1110

2's complement = 1110

+ 1
1111

a) 1111

3] What does EBCDIC stands for.

→ a) Extended binary coded decimal interchange code for information interchange.

4] ASCII is — bit code.

→ a) 8 bit

प्र. क्र.
Q. No.

Q2

21

2] Explain 1's Complement method of subtraction w
example.

→ 1's Complement is the reciprocal of the given number 0 and 1.

for eg- 1100

for eg- 1100
r/s complement of 1100 is 0011.

For 1^s Complement subtraction method.

We can take example of binary format of 4 and 5 and subtract them.

$q = 1001$

5 = 0101

ob

In 1's Complement subtraction method we need to take 1's complement of the number which is to be subtracted. So here we need to take 1's complement of 5.

i.e 1's complement of 5 is 1010.

Further we should add the subtracted number's complement to the number from which we are to subtract (i.e. the greater or the upper number or 1st number).

So here in this example we should add the

Carry $\downarrow$

Here in this case the carry is present. hence the answer is positive.

And the answer of the given example is 0011
i.e 3.

but we know that if Carry is present we should add the carry in the answer i.e 0011

$$\begin{array}{r} \boxed{1} \boxed{1} \\ 0011 \\ + 1 \\ \hline 0100 \end{array}$$

$\therefore$ So our final answer is 0100 i.e. 4

if we cross verify it with decimal number we can see that. $9 - 5 = 4$

04

Section

Q. No.

3

Marks

04

प्र. क्र.
Q. No.

This proves that our answer is correct.

Q3

2

note on BCD code.

- BCD code consist of 0 and 1 combination
- BCD code is a weighted code.
- BCD code is of 4-bit.
- BCD - Binary coded Decimal.
- BCD code is quit similar to Binary code

eg

Decimal	BCD
0	0000
1	0001
2	0010
3	0011

- Gray code can be also converted into Binary code
- eg Gray Code = 110110
Binary code = 101001

1

binary Addition rules.

$$1 + 0 = 1$$

$$0 + 0 = 0$$

$$0 + 1 = 1$$

$$1 + 1 = 0$$

1

binary Addition rules.



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Seat No./ Roll No. : 7319

Seat No./ Roll No.
In words

06238

प्र. क्र.
Q. No.

Input		Output
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

binary Subtract rules.

A	B	Sum	Carry
0	0	0	0
0	1	1	1
1	0	1	0
1	1	0	1

binary Addition rule.

We know that addition is a operator used to add to numbers. Here we know the format of the binary rows. So addition of $0+0=0$, $1+0=1$, $0+1=1$, $1+1=1$.

In same ways In binary Subtraction.

$0-0=0$, $0-1=1$ with a carry 1, $1+0$ is sum 1 carry 0, $1-1$ is sum 0 carry 1

प्र. क्र.

Q. No.

Q2

I]

Number system - It is the combination of Symbols and signs which are used in Arithmetic operations.

There are 4 types of number system

I] decimal system

It has base/radix of 10 numbers.

- 0 to 9.

- example - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

II] Binary system

- radix/base = 2.

- 0 to 1.

- Only consists 2 numbers.

III] Octal system.

- radix/base = 8.

- 0 to 7.

- example - 0, 1, 2, 3, 4, 5, 6, 7.

IV] Hexadecimal.

- radix/base = 16.

- 0 to 9 in numeric and A to F in alphabetic

- example - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.

- where A = 10, B = 11, C = 12, D = 13, E = 14, F = 15



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Assignment

Student's Sign : Sslele

Seat No./ Roll No. : 7340

Seat No./ Roll No.
In words

06643

Unit - Test - 1

Sub - Electronics (Digital) - I

Code - 3DSC03ELE12

प्र. क्र.
Q. No.

Q. 1)

1. Base 10 refers to which number system?
→ **b) Decimal**

2. 0's complement of 0001 is
→ **a) 1111**

3. What does EBCDIC stands for
→ **c) Extended binary coded decimal code for information exchange**

4. ASCII is ---- bit code
→ **b) 8**

Q. 2)

1) Explain different number system used in digital computer with an example.

2) Explain 1's complement method of subtraction with an example.

02

Section

Q. No.

Marks

प्र. क्र.

Q. No.

2) 1's Complement method of subtraction with an Example :-

The 1's complement subtraction

$$\begin{array}{r}
 0001 \\
 - 0101 \\
 \hline
 1101 \\
 \hline
 1010
 \end{array}$$

This example present carry add with another complement.

and final ans is 1010

$$\begin{array}{r}
 11010 \\
 \hline
 0100
 \end{array}$$



(अधिकारप्रदत्त स्वायत्त)
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Seat No. in words :

Suppliment No. : 3DSC03ELE12

6983

Centre

20/20

Pen

Unit Test -1

प्र. क्र.

Q. No.

Q. 1.

1) Base 10 refers to which number system?

→ c) Decimal

2) → a) 1111

3) → a) Extended binary coded decimal interchange code for information interchange

4) → a) 7

Q. 2.

2. → The 1's complement of subtraction as follows.

• For 1's complement for subtract smaller number from the larger number. (Positive)

3) Find the 1's complement of a smaller number.

प्र. क्र.
Q. No.

2) Add the 1's complement with the larger number

3) The result in which carry is present add this carry with result and answer will get.

Example - 1101

-1111 -0111

1's complement of $1101 = 0010$ $0111 = 1000$

1101 1101

$+0010 + 1000$

10101

Carry is present

0101

$+1$

0110

Ans:- 0110

• 1's complement for subtract larger number from the smaller number (Negative)

Example - 0111

-1101

1's complement of $1101 = 0010$

0111

$+0010$

1001

Carry is absent

" - 0110

- 1] Find 1's complement of larger number
- 2] Add 1's complement with smaller.
- 3] Carry are not present than, Find 1's complement of the result and it is negative.

$$= 1 \times 8^2 + 2 \times 8^1 + 3 \times 8^0$$
$$= 64 + 16 + 3$$
$$= 83$$

प्र. क्र.
Q. No.

④ Hexadecimal number system -
In hexadecimal number system, it has base 16. It contains 0 to 9 digits and A to F alphabates. i.e. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.

Example -

$$\begin{aligned}(16)_{16} &= 1 \times 16^1 + 6 \times 16^0 \\ &= 16 + 6 \\ &= 22\end{aligned}$$

(अधिकारपदस्त स्वागत)

कोल्हापुर



(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

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SUPPLIMENT

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Seat No. in words :

Suppliment No. :

6991

Centre

प्र. क्र.

Q. No.

Q.3

Q. BCD code

- ① In a coding, BCD code stands for 'Binary Coded decimal code.'
- ② It can be represented by 4-bit of binary digits.
- ③ It can be expresses as decimal digits with the binary digits.
- ④ The BCD code presents (0000 to 1111) 16 digits but the only BCD code presents 0 to 9 i.e 0000 to 1001).

Digits	0	1	2	3	4	5	6
BCD	0000	0001	0010	0011	0100	0101	0110

	7	8	9	
	0111	1000	1001	

02

Section

Q. No.

Marks

प्र. क्र.
Q. No.

Example of BCD code

① (1111)

② (1010)

③ (0101)

④ (1001)

Disadvantages of BCD code

- ① The addition of BCD is little complicated.
- ② The BCD requires much bits than binary. therefore BCD is more efficient than binary numbers.
- ③ BCD is very complicated.
- ④ The addition and subtraction of BCD has different rules.

1. The rules of binary addition and subtraction.

① Binary addition

		O/P	Carry
0	+ 1	1	
1	+ 0	1	
0	+ 0	0	
1	+ 1	0	1



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Students Sign. : Sanya

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Seat No. in words :

Suppliment No. :

6974

Centre

प्र. क्र.

Q. No. 1

1)

→ c) decimal

2)

→ a) 1111

3)

→ a) Extended binary coded decimal interchange code for information interchange.

4)

→ b) 8

Q. 2.

1. Explain different number systems used in digital computer with an example.

→ There are 4 types of number systems are used in digital computer.

1) Binary Number System

- It is represent as '2' number
- It is represent (0,1) number system
- Binary number system are used in computer language.

ex. Decimal number system convert into binary number system.

$$(37)_{10} = (100101)_2$$

$37 \div 2 = 18$	Remainder 1	↑
$18 \div 2 = 9$	Remainder 0	
$9 \div 2 = 4$	Remainder 1	
$4 \div 2 = 2$	Remainder 0	
$2 \div 2 = 1$	Remainder 0	
$1 \div 2 = 0$	Remainder 1	

2) Decimal Number system.

- It is represent as '10' number.
- It is shown as $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$.
- Decimal number system are used in computer language.

04	Section	Q. No.																	
		Marks																	

प्र. क्र.
Q. No. 3

Write a note on BCD codes.

→ In this digital Binary number represents (0-9) number. all (4 bit) number.

example :-

0 - 0000

1 - 0001

2 - 0011

3 - 0111

4 - 0100

5 - 0101

6 - 0110

7 - 0111

8 - 1000

9 - 1001

example: 25 in BCD code
as: 00100101