Bharatiya Vidya Bhavan's

Sardar Patel College of Engineering

(A Government Aided Autonomous Institute)

Munshi Nagar, Andheri (West), Mumbai – 400058.

May 2019

End semester examination

Maximum Points: 100 **Duration: 3 hours**

Class: S.Y.B.Tech **Semester: IV** **Program: ELECTRICAL**

Name of the Course: Applied Mathematics-IV **Course Code : BS-BTE401**

Instructions:

- **Question Number.1 is compulsory.**
- **Attempt any FOUR questions out of remaining SIX questions.**
- **Answers to all sub questions should be grouped together.**
- **Use of nonprogrammable calculator is allowed.Answer in detail.**

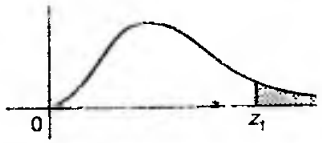
<table>
<tr><th>Q</th><th>QUESTIONS</th><th>POINTS</th><th>CO</th><th>BL</th><th>PI</th></tr>
<tr><td>1A)</td><td>Using Gauss – Elimination method, solve the system:
$3.15x - 1.96y + 3.85z = 12.95$
$2.13x + 5.12y - 2.89z = -8.61$
$5.92x + 3.05y + 2.15z = 6.88$</td><td>06</td><td>1</td><td>1</td><td>1.2.1</td></tr>
<tr><td>1B)</td><td>The mean height of random sample of 100 individuals from a population is 160.The S.D. of the sample is 10.Would it be reasonable to suppose that the mean of the population is 165?</td><td>06</td><td>3</td><td>2,3,4</td><td>2.4.1</td></tr>
<tr><td>1C)</td><td>Twelve dice were thrown 4096 times and the number of appearance of "6" each time was noted.
<table>
<tr><td>NO. OF SUCCESSES</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6 & above</td></tr>
<tr><td>FREQUENCY</td><td>447</td><td>1145</td><td>1181</td><td>786</td><td>380</td><td>115</td><td>32</td></tr>
</table>
Fit a binomial distribution when the dice are unbiased.</td><td>08</td><td>2</td><td>2,3,4</td><td>2.4.3</td></tr>
<tr><td>2A)</td><td>In an experiment on pea – breading mendel obtained the following frequencies of seeds.
315 Round and Yellow
101 Wrinkled and Yellow
108 Round and Green</td><td>06</td><td>3</td><td>2,4,5</td><td>2.4.2</td></tr>
</table>

	32 Wrinkled and Green According to his theory of heredity the numbers should be in population 9:3:3:1. Is there any evidence to doubt the theory at 5% Los?				
2B)	A manufacturer finds that the average demand per day for the mechanic to repair his new production is 1.5.Over a period of one year the demand per day is distributed as Poisson distribution.He employs two mechanics.On how many days in one year i) both mechanics would be free ii) some demand is refused.	06	2	3,4,5	2.4.4
2C)	Compute the real roots of $x \log_{10} x - 1.2 = 0$, correct to three decimal places.	08	2	2,3	2.4.3
3A)	The following data represents the biological values of protein from cow's and buffalo's milk at a certain level. Cow'milk: 1.82, 2.02, 1.88, 1.61, 1.81, 1.54 Buffalo's milk: 2.00, 1.83, 1.86, 2.03, 2.19, 1.88 Examine if the average values of protein in the two samples in the two samples significantly differ.LOS 5%.	06	3	4,5,6	2.4.2
3B)	Two random samples gave the following data: Sample no. 1: Size 8, Mean 9.6, Variance 1.2 Sample no. 2: Size 11, Mean 16.5, Variance 2.5 Can we conclude that the two samples have been drawn from the same normal population?LOS 5%.	06	3	5,6	2.4.4
3C)	Using Taylor's series method solve $\frac{dy}{dx} = 1 - 2xy$ given that y(0) = 0 and hence find y(0.2) and y (0.4)	08	2	2,3,4	1.4.1
4A)	In an examination marks obtained by students in mathematics, physics and chemistry are normally distributed with means 51,53 and 46 with standard deviations 15,12,16 respectively. Find the probability of securing total marks (i) 180 or more (ii) 90 or below.	06	2	3,4	2.4.3
4B)	A man buys 100 electric bulbs of each of two well known makes taken at random from stock for testing purpose.He finds that make "A" has a mean life of 1300 hours with a S.D. of 82 hours and make "B" has a mean life of 1248 hours with S.D. of 93 hours.Discuss the significance of these results.	06	3	4,5	1.3.1
4C)	Calculate the correlation coefficient for the following data: X: 9, 8, 7, 6, 5, 4, 3, 2, 1 Y: 15, 16, 14, 13, 11, 12, 10, 8, 9	08	1	2,3	2.4.1
5A)	Fit a Poisson distribution for the following distribution X: 0, 1, 2, 3, 4, 5, Total f: 142, 156, 69, 27, 5, 1, 400	06	2	2,3,4	2.4.3

5B)	Solve $\frac{dy}{dx} = xy$ with initial conditions $y(1) = 2$ and find y at x = 1.2, 1.4 by Runge - Kutta Method of Fourth Order.	06	1	4,5	2.4.4
5C)	If X & Y are random variables with the same standard deviation σ and zero correlation then show that $U = X\cos\alpha + Y\sin\alpha$ & $V = X\sin\alpha - Y\cos\alpha$ have zero covariance.	08	1	2,3,4	1.1.1
6A)	A crv X has PDF defined as $f(x) = \begin{cases} 0, x \le 2 \\ \frac{2x+3}{18}, 2 \le x \le 4 \\ 0, 4 \le x \end{cases}$. Find mean & variance.	06	2		1.1.1
6B)	From the following data calculate the coefficient of rank correlation between x & y X: 32, 55, 49, 60, 43, 37, 43, 49, 10, 20 Y: 40, 30, 70, 20, 30, 50, 72, 60, 45, 25	06	1		2.4.3
6C)	The mean consumption of food grains among 400 sampled middle class consumers is 380 grams per day per person with a standard deviation of 120 grams.A similar sample survey of 600 working class consumers gave a mean of 410 grams with a standard deviation of 80 grams.Are we justified in saying that the difference between the averages of the two classes is 40?LOS 5%	08	3	3,4	2.4.4
7A)	Solve the following system of equations by using Gauss – Seidel methods (correct to 3 decimal places) $8x - 3y + 2z = 20$, $4x + 11y - z = 33$, $6x + 3y + 12z = 35$ upto 5th iteration.	06	1	2,5	2.4.1
7B)	A machine is claimed to produce nails of mean length 5 cm and standard deviation of 0.45 cm.A random sample of 100 nails gave 5.1 cm as their average length.Does the performance of the machine justify the claim?LOS 5%	06	3	5,6	2.4.3
7C)	1000 students are graded according to their I.Q. & their economic conditions.Use chi-square test to find out whether there is any association between economic conditions and the level of I.Q.	08	3	4,5	2.4.4

Economic		I.Q.	
Conditions	High	Medium	Low
Rich	160	300	140
Poor	140	100	160

Percentage Points of χ^2 - Distribution



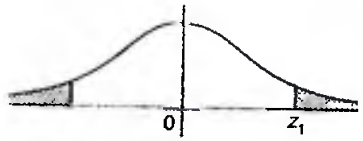
Example

For Φ = 10 d. o. f.

$P(\chi^2 > 15.99) = 0.10$

Φ \ P	0 = .99	0.95	0.50	0.10	0.05	0.02	0.01
1	.000157	.00393	.455	2.706	3.841	5.214	6.635
2	.0201	.103	1.386	4.605	5.991	7.824	9.210
3	.115	.352	2.366	6.251	7.815	9.837	11.341
4	.297	.711	3.357	7.779	9.488	11.668	13.277
5	.554	1.145	4.351	9.236	11.070	13.388	15.086
6	.872	1.635	5.348	10.645	12.592	15.033	16.812
7	1.339	2.167	6.346	12.017	14.067	16.622	18.475
8	1.646	2.733	7.344	13.362	15.507	18.168	20.090
9	2.088	3.325	8.343	14.684	16.919	19.679	21.666
10	2.558	3.940	9.340	15.987	18.307	21.161	23.209
11	3.053	4.575	10.341	17.275	19.675	22.618	24.725
12	3.571	5.226	11.340	18.549	21.026	24.054	26.217
13	4.107	5.892	12.340	19.812	22.362	25.472	27.688
14	4.660	6.571	13.339	21.064	23.685	26.873	29.141
15	4.229	7.261	14.339	22.307	24.996	28.259	30.578
16	5.812	7.962	15.338	23.542	26.296	29.633	32.000
17	6.408	8.672	16.338	24.769	27.587	30.995	33.409
18	7.015	9.390	17.338	25.989	28.869	32.346	34.805
19	7.633	10.117	18.338	27.204	30.144	33.687	36.191
20	8.260	10.851	19.337	28.412	31.410	35.020	37.566
21	8.897	11.591	20.337	29.615	32.671	36.349	38.932
22	9.542	12.338	21.337	30.813	33.924	37.659	40.289
23	10.196	13.091	22.337	32.007	35.172	38.968	41.638
24	10.856	13.848	23.337	32.196	36.415	40.270	42.980
25	11.524	14.611	24.337	34.382	37.652	41.566	44.314
26	12.198	15.379	25.336	35.363	38.885	41.856	45.642
27	12.879	16.151	26.336	36.741	40.113	44.140	46.963
28	13.565	16.928	27.336	37.916	41.337	45.419	48.278
29	14.256	17.708	28.336	39.087	42.557	46.693	49.588
30	14.953	18.493	29.336	40.256	43.773	47.962	50.892

Percentage Points of t - distribution



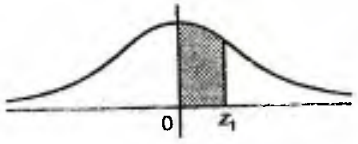
Example

For Φ = 10 d. o. f.

$P(|t| > 1.812) = 0.1$

Φ \ P	0.20	0.10	0.05	0.02	0.01
1	3.078	6.314	12.706	31.812	63.657
2	1.886	2.920	4.303	6.965	9.925
3	1.638	2.353	3.182	4.541	5.841
4	1.533	2.132	2.776	3.747	4.604
5	1.476	2.015	2.571	3.365	4.032
6	1.440	1.943	2.447	3.143	3.707
7	1.415	1.895	2.365	2.998	3.499
8	1.397	1.860	2.306	2.896	3.355
9	1.383	1.833	2.262	2.821	3.250
10	1.372	1.812	2.228	2.764	3.169
11	1.363	1.796	2.201	2.718	3.106
12	1.356	1.782	2.179	2.681	3.055
13	1.350	1.771	2.160	2.650	3.012
14	1.345	1.761	2.145	2.624	2.977
15	1.341	1.753	2.131	2.602	2.947
16	1.337	1.746	2.120	2.583	2.921
17	1.333	1.740	2.110	2.567	2.898
18	1.330	1.734	2.101	2.552	2.878
19	1.328	1.729	2.093	2.539	2.861
20	1.325	1.725	2.086	2.528	2.845
21	1.323	1.721	2.080	2.518	2.831
22	1.321	1.717	2.074	2.508	2.819
23	1.319	1.714	2.069	2.500	2.807
24	1.318	1.711	2.064	2.492	2.797
25	1.316	1.708	2.060	2.485	2.287
26	1.315	1.706	2.056	2.479	2.779
27	1.314	1.703	2.052	2.473	2.771
28	1.313	1.701	2.048	2.467	2.763
29	1.311	1.699	2.045	2.462	2.756
30	1.310	1.697	2.042	2.457	2.750
40	1.303	1.684	2.021	2.423	2.704
60	1.296	1.671	2.000	2.390	2.660
120	1.289	1.658	1.980	2.358	2.617
∞	1.282	1.645	1.960	2.325	2.576

Area Under Standard Normal Curve



The table gives the area under the standard normal curve from $z = 0$ to $z = z_1$ which is the probability that z will lie between $z = 0$ and $z = z_1$.

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.8832	.0871	.0910	0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1950	1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2517	.2549
0.7	.2580	.2611	.2642	.2673	.2703	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0 9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	3810	.3830
1.2	.3849	.3869	3888	3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	4066	.4082	.4099	.4115	4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4415	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	4616	.4625	.4633
1.8	4641	4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	4817
2.1	.4821	.4826	.4830	.4834	4838	.4842	.4846	.4850	.4854	4857
2.2	4861	.4864	4868	.4871	4875	.4878	.4841	4884	4887	.4890
2.3	.4893	.4896	.4898	4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936
2.5	.4938	.4940	.4941	4943	.4945	4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	4957	.4959	.4560	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	4968	.4969	.4970	4971	.4972	.4973	.4974
2.8	4974	.4975	4976	.4977	4977	.4978	.4979	.4979	4980	.4981
2.9	.4981	4982	4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	4989	4990	.4990

Bharatiya Vidya Bhavan's

Sardar Patel College of Engineering

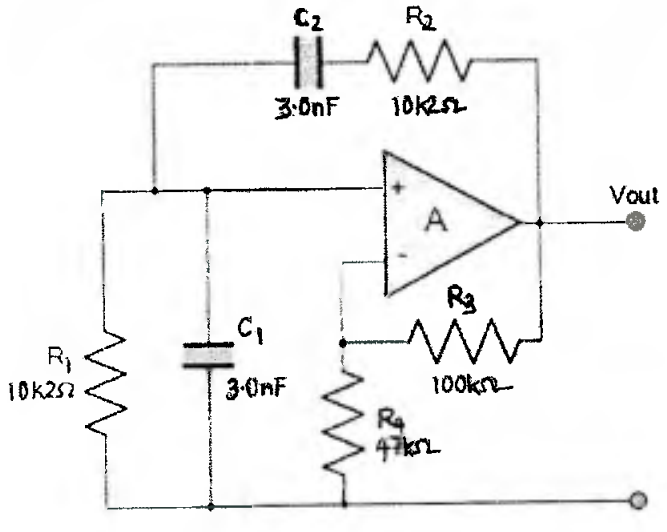
(A Government Aided Autonomous Institute)
Munshi Nagar, Andheri (West), Mumbai – 400058

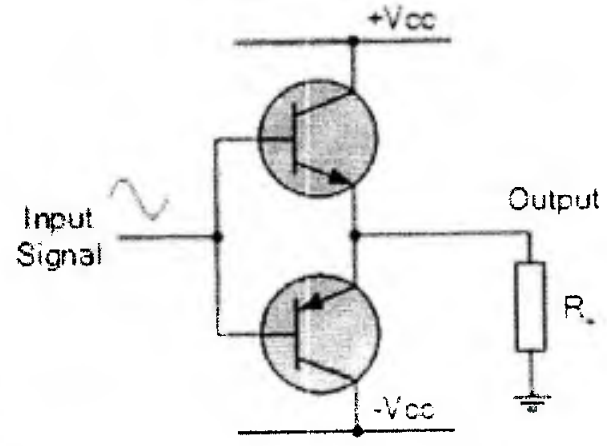
End Sem May 2019

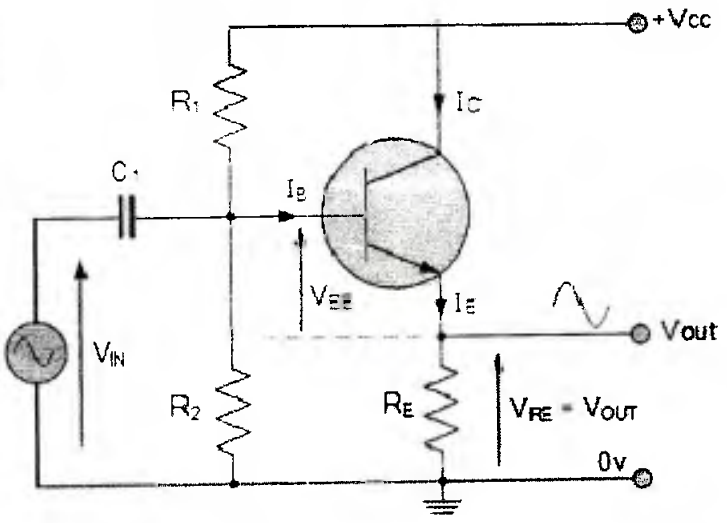
Program: Electrical Engineering
Course code: PC-BTE401
Name of the Course: Analog Circuits

Duration: 3 Hour
Maximum Marks: 100
Semester: IV

Q. 1 is compulsory.
Solve any four questions from the remaining.

Q. No.		Points	CO	BL	PI
1 A (i)	20 mV, 10 Hz signal is to be amplified to get output of 2.02 V. Draw the corresponding circuit selecting the proper components. Justify the selection.	5	1	5	1.4.1
(ii)	Explain use of 7805 to get 7.5 V.	5	3	2	2.1.2
1 B (i)	A transformer-coupled, common emitter amplifier uses a 10:1 winding ratio. What is the load seen by the collector if the secondary drives 10 ohms?	2	1	3	1.3.1
(ii)	The non-linear distortion of an amplifier is D without feedback. The amplifier has an open-loop voltage gain of A_v and feedback fraction is m_v. Express the non-linear distortion with negative voltage feedback in terms of D, A_v, m_v .	2	4	3	1.4.1
(iii)	Determine the type and order of filter used, if it is given that, the gain increases at the rate of 60dB/decade on the stop band.	2	5	3	1.4.1
(iv)	A monostable multivibrator has R = 120 kΩ and the time delay T = 1000 ms, calculate the value of C.	2	2	3	1.4.1
(v)	Determine frequency of oscillation. 	2	5	3	2.1.2

2A	Identify the circuit. Draw output waveform with respect to the input waveform. Modify and redraw the circuit so that output is exact replica of the input.	**10**	**1**	**2**	**2.1.2**
					
B	Explain the terms with respect to power amplifier. (i) Power dissipation capability (ii) conversion efficiency	**10**	**1**	**2**	**.1**
3 A	Draw the functional block diagram of 555 timer and hence explain the function of : (i) discharge transistor (ii) comparators	**10**	**2**	**2**	**1.6.1**
B	With suitable waveforms explain pulse width modulation using 555.	**10**	**2**	**2**	**1.4.1**
4 A	Voltage regulator has to provide 5V at 10 A. Draw the suitable circuit diagram using 723 specifying component values . Explain the same.	**10**	**3**	**3**	**1.4.1**
B	What is current limit protection ? what is the arrangement for the same in IC 723? Explian constant current limiting .	**10**	**3**	**2**	**1.4.1**
5 A	For common emitter amplifier with potential divider bias with R_E bypassed, the lower cutoff frequencies are given. The lower cutoff frequency due to C_s is 6.86 Hz. The lower cutoff frequency due to C_E is 327 Hz. The lower cutoff frequency due to C_C is 25.68 Hz. Also given: V_{cc} = 20V, C_{be} = 36pF, C_{bc} = 4 pF, C_{ce} = 1 pF, C_{wi} = 6 pF, C_{wo} = 8 pF, h_{fe} = 100, h_{ie} = 1. 576 KΩ , R_s = 1 KΩ, R_1 = 40 KΩ, R_2 = 10 KΩ, R_C = 4 KΩ, R_L = 2.2 KΩ , R_E = 2 K Ω . (i) Determine the value of C_s . (ii) Determine the value of C_E . (iii) Determine the value of C_C (iv) Determine the net lower cutoff frequency. Explain with the help of frequency response.	**10**	**1**	**3**	**2.1.2**
B (i)	(i) Gain (ii) easy to tune (iii) use of inductors (iv) isolation all are the advantages of an active filter. Is the statement correct? If not modify. Explain the same.	**5**	**5**	**2**	**1.6.1**
(ii)	Design the circuit of second order LPF with cut off frequency of 2kHz	**5**	**5**	**4**	**1.6.1**

6 A	State whether following statements are true or false. Justify your answer.		**4**	**5**	**1.4.1**
(i)	Circuit shown below is example of current series feedback. 	**05**			
(ii)	Output impedance reduces with voltage shunt feedback.	**05**			
(iii)	Negative feedback provides stability of the gain.	**05**			
(iv)	Voltage gain of an amplifier without feedback is 60dB. It decreases to 40dB with feedback. The value of feedback factor is 0.09.	**05**			
7 A	From the available circuits i.e. RC phase shift oscillators, Crystal oscillators and Wien bridge oscillators, oscillators are to be selected for following applications 1. Laboratory signal generator 2. Micro-controller having a clock speed of 1MHz Suggest the type of oscillator depending on the application. Justify your suggestion.	**10**	**5**	**2**	**1.4.1**
7 B	In RC phase shift oscillator feedback circuit provides phase shift of 90^0. T/F Justify. Explain with the help of corressponding circuit diagram.	**10**	**5**	**5**	**1.4.1**

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SARDAR PATEL COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)
Munshi Nagar, Andheri (W) Mumbai – 400058

End Semester - May 2019 Examinations

Program: S.Y. B.Tech.(Electrical) **Duration: Three Hour**

Course Code: PC-BTE402 **Maximum Points: 100**

Course Name: Electrical and Electronic Measurement Semester: IV

Notes:
1. Question No. 1 is compulsory.
2. Solve any four questions from remaining six.
3. Draw neat diagrams.
4. Assume suitable data if necessary.

Q. No.	Questions	Points
1.	a. Describe working of Megger with proper diagram.	04
	b. Write in brief about Fast low frequency Measurement of sinusoidally varying signal.	04
	c. Define Sampling theorem, Time division multiplexing and Quantization.	06
	d. Define Transducer and Electrical Transducers. Write advantages of Electrical Transducers. Write (in one lines) on which basis transducers are classified.	06
2.	a. Describe the vernier technique for small time interval measurement in details with Block Diagram, Waveforms and proper description of all variables. Derive the associated relations with proper justifications at every step.	12
	b. Define Resolution in the context of time interval measurement and derive the expression for resolution in case of Vernier technique of measurement.	02
	c. If the main and Vernier oscillators have time periods of 10.006 and 10.001 micro seconds, respectively, and the time interval to be measured is 1410.05micro second, what would be the reading of the main and Vernier counters. Find the total measurement.	03

	d. In vernier technique of small time interval measurement, if t_x = 1.5 μs and T_m = 1 μs. For T_v = 0.9 μs find the main and vernier counter readings.	03
3.	a. Describe the appropriate circuit for lag/lead measurement. b. Describe the measurement of time constant. c. Explain in details the method to measure time interval between two events defined by voltage levels.	08 04 08
4.	a. Define the following terms in context of Instrument Transformer 1. Transformation Ratio 2. Turns Ratio 3. Nominal Ratio 4. Ratio Error and 5. Phase Angle Error b. Derive the relationship for Actual Transformation ratio, phase angle and phase angle error for Potential Transformer. (In deriving expectation is neat phasor diagram, definition of variables used, reasoning at steps.)	05 15
5.	a. Define Vibrations and Modes of Seismic transducer for vibration Measurement. b. Describe the working principle of Seismic transducer for vibration Measurement with appropriate derivation. c. Describe, in brief, working principle of Potentiometric Type and Peizo-Electric Accelerometers.	02 10 08
6.	a. Define direct type and indirect type of analog to digital converter.	02

	b. Describe operation of Voltage to Time Converter employing comparator with appropriate circuit diagram and waveforms.	08
	c. Draw the circuit with appropriate waveforms for measurement of time interval when events occur in random manner along with detail explanations of working its principal. Extend the same for saturated lapse time measurement.	10
7.	a. Describe operating principles of Electromagnetic Flow meters and Hot wire anemometers. b. Describe the need for calibration and standard calibration procedure. OR b. Describe the operation of Power System Frequency Deviation Measurement along with appropriate circuit diagrams and waveforms.	10 10

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End Semester

Program: Electrical Engineering
Duration: 2 hrs.
Maximum Marks: 50

Date: May 2019
Course code: BS-BTE402
Semester: IV

Course Name: Medical Electronics

Note: Solve any five questions

Q. No.	Questions	Max Marks	Co No	BL	PI
1 a	What is the function of bio electrodes? With an equivalent circuit explain electrode tissue interface. Describe the properties of bio electrodes	07	01	02	1.3.1
b	Name any three bio signals and state their use in medical instrumentation	03	01	01	
2 a	What is arrhythmia? How it can be diagnosed? Explain any one arrhythmia monitoring system.	07	01, 02	02. 03	
b	Which parameters are used for the selection of transducers used in biomedical devices?	03	02	03	1.3.1
3 a	What is ambulatory monitoring system? What is the difference between standard and ambulatory monitoring system? Explain different ECG ambulatory monitors	07	03	02, 03	1.3.1
b	Explain any three static characteristics of transducers.	03	02	02	
4 a	Explain working principle of different pulse rate meters	05	02	03	1.3.1
b	Compare average and instantaneous heart rate meters	05	02	02	
5 a	With a neat block diagram explain generalized medical instrumentation system. What is an intelligent medical instrument?	07	01	03	1.3.1
b	Explain indirect method for blood pressure measurement	03	02	02	1.3.1
6 a	What is biotelemetry? Explain the working of general telemetry transmitter.	05	03	02	1.3.1
b	Explain the methods used for transmitting multiple bio medical signals through same channel	05	03	02	1.3.1

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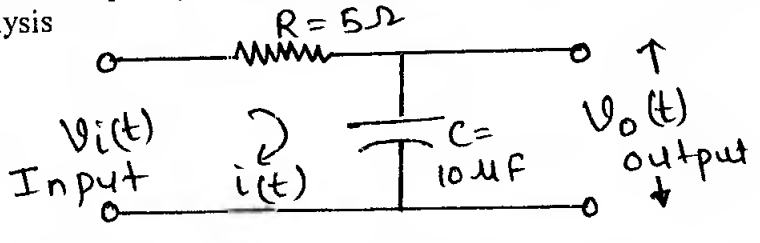
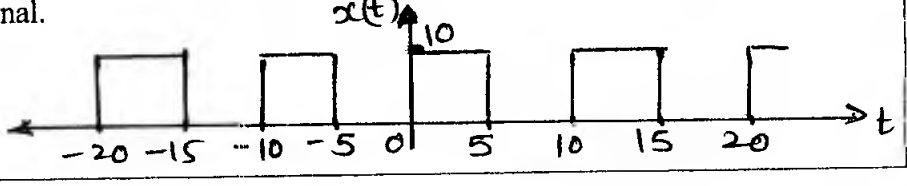
END SEMESTER - MAY 2019 Examinations

Program: Electrical | **Duration: 3 hr**

Course Code: PC-BTE403 | **Maximum Points: 100**

Course Name: Signals & Systems | **Semester: IV**

Notes: 1) Solve any five questions 2) Assume suitable data if required

Q. No.	Questions	Pts	CO	BL	PI
1a	Test if the signal $x(t) = \cos\left(\frac{\pi}{3}t\right) + \sin(\frac{\pi}{4}t)$ is periodic? If yes find fundamental time period.	05	01	02	1.3.1
1b	Test if x (t) = t u (t) is energy or power signal?	05	01	02	1.3.1
1c	Identify if the system y[n] = x[-n+5] is linear / nonlinear, stable / unstable, causal / non-causal, static / dynamic and time varying / time invariant.	05	01	03, 04	1.4.1
1d	Determine the output y[n] of a system if h[n] = u[n+3] - u[n-2] for an input x[n]= u[n+2] - u[n-3]. (Use time domain method)	05	02	03, 04	1.4.1
2a	Determine the output of the system if input applied is $x[n] = a^n\, u[n]$ and impulse response is $h[n] = b^n\, u[n]$ where 0<a<1 and 0<b<1. Use time domain analysis. Classify the system IIR or FIR?	10	02	03, 04	1.4.1
2b	Consider a DT system y[n] = 0.5 y[n-1] + x[n]. Input applied is $x[n] = 0.8^n\, u[n]$ and y[-1] = 5. Evaluate Zero state response, zero input response and total response of the system. (Use time domain analysis)	10	02	03	1.4.1
3a	Determine Fourier transform of $x(t) = e^{-4t^2}$.	08	04	03	1.4.1
3b	Plot the frequency response of given electrical network using Fourier analysis 	04	03	04	1.4.1
3c	Determine fundamental component, third and fifth harmonic of given signal. 	08	03	04	1.4.1

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END SEMESTER - MAY 2019 Examinations

4a	State and prove following properties of unilateral Laplace transform i) Differentiation ii) Final value theorem	05	04	02	1.4.1
4b	Consider the Laplace transform $X(s) = \frac{2s\,e^{-2s}}{s^2+4s+3}$ and ROC Re{s} <−3. Determine x (t).	05	04	03	1.4.1
4c	Given a simple circuit with an input current source (t), resistance $R =$ 10 ohm and inductance $L=$ 0.1 H connected in parallel. Let the output current through the inductor be (t). Determine the transfer function of this circuit. Comment on the stability of the system.[Use LT]	05	04	03, 04	1.4.1
4d	Consider signal $x(t) = e^{at}\,u(-t)$ given as an input to LTI system with impulse response $h(t) = e^{-at}\,u(t)$ where α>0. Determine ROC and Laplace transform of the resulting output signal.	05	04	03	1.4.1
5a	Determine inverse z-transform of $X(z) = \frac{z(2z-5)}{(z-2)^2}$ with ROC given as |z|<2.	08	05	03	1.4.1
5b	State and prove time delay property of unilateral Z- Transform.	04	05	02	1.4.1
5c	Determine ROC and Z- Transform of following signals i) $x[n] = (\frac{1}{3})^n\,u[n+3]$ ii) $x[n] = e^{-jbn}u[n]$ with b>0	08	05	03	1.4.1
6a	The output y[n] of the system is found to be $3(\frac{1}{4})^n\,u[n]$ for the input x[n] = u[n]. Determine i) Impulse response of the system ii) Output of the system when input is $x[n] = (\frac{1}{2})^n\,u[n]$	10	05	03, 04	1.4.1
6b	For the system represented by $3\,y[n] - 4\,y[n-1] + y[n-2] = x[n]$ with input $[n] = (\frac{1}{2})^n\,u[n]$, y[-1]= 1 and y[-2]=0, determine output of the system. Draw pole-zero plot of the system.	10	05	03	1.4.1
7a	Realize a CT system having transfer function $H(s) = \frac{5s^2-12\,s+15}{s^3-2s^2-7\,s+12}$ in Direct form I and Direct form II.	10	05	04	1.4.1
7b	Realize following CT system with transfer function H(z) in cascade and parallel form where $H(z) = \frac{10(z+1)(z+2)}{(z+3)(z+4)(z+7)}$	10	05	04	1.4.1

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END SEM(May 2019)

Program: : Electrical Engineering
Course Code : PC-BTE404
Name of the Course: Microprocessors and Microcontrollers
Note: **Instructions:**

- Question 1 is compulsory.
- Attempt any **four** of the remaining questions.
- Assume suitable data if required.
- Answers to all sub-questions should be grouped together

Duration:3 hours
Max points: 100 marks
Semester: IV

Q.No		Marks	CO	BL	PI
1a.	Draw and explain the memory map of 8051 internal RAM.	5	1	2	1.3.1
b.	Explain the special function registers used for timers and counters in 8051 microcontrollers.	5	1	2	1.3.1
c.	Explain any five bit manipulation instructions of 8051 controllers.	5	1	2	1.3.1
d.	List the salient features of 8051 microcontroller.	5	1	1	1.3.1
2.a	Explain the addressing modes of 8051 microcontroller with examples.	10	1	2	1.3..1
b.	Write an assembly language program (with and without timer) to generate a square wave on P1.2.Highlight the difference between these two methods.(create a pulse width of 5ms and XTAL=11.0592Mhz for timer0)	10	2	3	2.1.3
3a	Design a microcontroller system using 8051 microcontroller.16 KB of ROM and 32 KB of RAM. interface the memory such that the starting address of ROM is 0000H and RAM is 8000H.draw the interfacing diagram..	5	2,3	6	2.3.1
b.	Write short notes on interrupts of 8051 .	5	1,2	3	2.1.3

c.	Assume that bit P2.3 is an input and represents the condition of an oven. If it goes high, it means that the oven is hot. Monitor the bit continuously. Whenever it goes high, send a high to low pulse to port P1.5 to turn on a buzzer. Draw interface diagram and write an ALP.	5	1,2	6	2.1.3
d.	Explain SPI and I2C.	5	1	2	1.3.1
4a.	Explain the following instructions LJMP 8000H, ANL A,@R0, PUSH, RETI, RR A	10	1	2	1.3.1
b	Write a program to generate a square wave at Port C using 8255 PPI using 8051 microcontroller. Write the control word format of 8255PPI.	10	2,3	3	2.1.3
5a	With a neat circuit representation, illustrate interfacing of Digital to analog Converter (DAC) with 8051. Write an assembly language program to generate a staircase waveform using DAC.	10	2	3	2.1.3
b.	External data ROM has a lookup table for the squares of numbers 0-9.Write a program to copy the table elements into the internal RAM starting at address 30H.	10	1	3	2.3.1
6a.	Write a program (in assembly or C program)for 8051 to transfer the letter "A" serially at 9600 baud continuously. Use 8 bit data and 1 stop bit.	5	1,2	3	2.1.3
b.	Explain the functions of the following pins of 8085 microprocessor HOLD,HLDA,READY, TRAP,INTR	5	1	2	1.3.1
c.	Explain matrix keyboard interfacing of 8051 microcontroller with neat diagram .write an ALP to check whether all the keys are open.	10	1,2	2	2.1.3
7a	Write short notes on any one (with program): i)DC motor interfacing ii)8 bit ADC interfacing with 8051 microcontroller.	8	2	3	2.13
b.	Describe the internal architecture of 8051 microcontroller with neat diagram.	12	1	2	1.3.1

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End Sem - May 2019 Examinations

Program: B. Tech. Electrical Engineering **Duration: 3hr.**

Course Code: VL-BTE04 **Maximum Points: 100**

Course Name: Numerical Technique & Programming **Sem: III IV**

Notes: All questions are compulsory

Q. No.	Questions	Points
1a	Consider function $f(x) = x^2 \cos x$ Write a code to calculate numerical derivative and its absolute difference w.r.t. true value for x= 0.5, with a step size of h= 0.01, 0.001, 0.0001, 0.00001 using Central difference formula and Forward difference formula. Verify your results manually by using same formulae.	10
1b	Write a code to apply Simpson's 1/3rd rule **iteratively** to find integral with step size h= 1 and 0.1, $$\int_0^2 (5 + 3\cos x)\, dx$$ Formula for Simpson's 1/3rd rule is $$\int_a^{a+2h} f(x)dx = \frac{h}{3}(f(a) + 4f(a+h) + f(a+2h))$$	10
2a	Write a code to solve following set of linear equations by Gauss-Siedel method with initial guess as X_0= [1 2 3 4]. Perform 50 iterations. $$\begin{aligned} 9x_1 - 4x_2 - 5x_3 - x_4 &= -22 \\ -2x_1 + 8x_2 - x_3 - x_4 &= 23 \\ -3x_1 - x_2 + 5x_3 - 2x_4 &= -2 \\ -x_1 - 6x_2 - 2x_3 + 8x_4 &= 9 \end{aligned}$$ Formula for Gauss-Siedel method is $$x_k^{i+1} = \frac{b_k - (\sum_{j=1}^{k-1} A_{k,j} x_j^{(i+1)} + \sum_{j=k+1}^{n} A_{k,j} x_j^{(i)})}{A_{k,k}}$$	20
3a	Find solution of the following function with initial guess as [1; 4] using inbuilt MATLAB function ***fzero***. $$f(x) = 2 - x + \ln(x)$$	10
3b	Repeat the question 3a with initial guess as $x_0 = 2$ and use MATLAB function ***fsolve***. Compare and comment on the result obtained in question 3a and 3b.	10

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4a	The data is given in Table as follows. The relation between X and Y is given by linear regression given as $y_i = a_1 + a_2 x_i$ x: 1, 2, 3, 4, 5, 6, 7 y: 0.5, 2.5, 2, 4, 3.5, 6, 5.5 a) Estimate values of a_1 and a_2 by linear regression given by $phi = (A^T A)^{-1} A^T Y$ Where, $phi = [a_1; a_2]$ b) Repeat the same by using inbuilt MATLAB function ***lsqcurvefit***	20
5a	Write a code to use Euler's explicit method to numerically integrate following equation from x=0 to x=2 with step size of 0.5. The initial condition at x=0 is y=1 $\frac{dy}{dx} = -2x^3 + 12x^2 - 20x + 8.5$ Formula for Euler's explicit method is $y_i = y_{i-1} + hF(x_{i-1}, y_{i-1})$ Calculate true value manually at x=4 and comment on error.	10
5b	Solve the problem mentioned in question 5a using Runge Kutta 4th order method in MATLAB. (You can use inbuilt MATLAB function ***ode45*** for the same.)	10

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END SEMESTER EXAMINATION

Program: **B.Tech. in Mechanical Engineering** Date:**May-2019**
Class: **Second Year B.Tech.(Civil/Electrical)** Duration: **3Hr.**
Course code:**MC-BT002** Max.Points:**100**
Name of the Course:**Indian Traditional Knowledge** Semester:**IV**

Instructions: Solve**ANY FIVE** Questions.

		Points	CO	BL	PI	Module
Q.1	a) **Explain:**"*India is the Richest Prize in the World in all respects.*"**Justify:** withsuitable examples.	**(10)**	1	V	6.1.1	1
	b) **Justify:**"*Nature never distinguished any other country so completely a unit as India.*" in context of Fundamnetal unity of India since ancient timesgiving suitable examples.	**(10)**	1	V	6.1.1	1
Q.2	a) **List:** Names of The Vedas and Upvedas.**Justify:**"*Vedas are the oldest and most valuable treasure of knowledge in the library of mankid*".	**(10)**	1	I,V	6.1.1	2
	b) **Explain:**Importance of upvedas in indian tradition and knowledge system.	**(10)**	1	V	6.1.1	2
Q.3	a)**Explain:** With suitable one example each for thegreatness of ancient indian wisdom in science and spirituality.	**(10)**	1,2	V	6.1.1	3
	b) **Explain:**Co-existence of Science and Spirituality in India since ancient times with suitable examples and**Justify:**its relevance with modern times.	**(10)**	1,4	II,V	6.1.1	3
Q.4	a) **Explain:** Any two significant medical practices followed in ancient India.	**(10)**	2	II	6.1.1	4
	b) **Define:** Yoga. **Justify:***"Yoga is the key for long life with good health"* in context of ancient as well as modern India.	**(10)**	2	I,VI	6.1.1	4
Q.5	a) **Discuss:** Any two significant art forms in ancient India and Any Two valuable contributions by ancient Indian artists for the development of these art forms.	**(10)**	3	VI	6.1.1	5
	b) **Justify:**Advancement of Civil Engineering, Architecture and Town Planning in ancient India with suitable examples.	**(10)**	2,3	V	6.1.1	5
Q.6	a) **Explain:** Rich heritage of Indian Traditional Languages since ancient times..	**(10)**	3	II	6.1.1	6
	b) **Discuss**:Work of Saint Dnyaneshwar and his contribution to Indian society as a Yogi, Saint, Linguist and Philosopher.	**(10)**	2,3	VI	6.1.1	6,7
Q.7	a) **Discuss:** Teachings of Bhagwan Gautam Buddha andits **Importance**in today's modern independent India.	**(10)**	3,4	V, VI	6.1.1	7

	b) Justify: *" Teachings of Ancient Indian Saints are the Pearlsof Widom for the entire mankind."* with context to Teachings of Bhagwan Mahavir Vardhaman.	**(10)**	3	V	6.1.1	7

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Re-Examination - July 2019 Examinations

Program: S.Y. B.Tech.(Electrical) **Duration: Three Hour**

Course Code: PC-BTE402 **Maximum Points: 100**

Course Name: Electrical and Electronic Measurement Semester: IV

Notes:
1. Question No. 1 is compulsory.
2. Solve any four questions from remaining six.
3. Draw neat diagrams.
4. Assume suitable data if necessary.

Q. No.	Questions	Points
1.	a. Describe working of Maxwell Inductance-Capacitance Bridge.	04
	b. Write in brief about phase measurement through time measurement.	04
	c. Define Sampling theorem, Time division multiplexing and Quantization.	06
	d. Describe LVDT Accelerometers.	06
2.	a. Describe the circuit with appropriate waveforms along with working principal for measurement of time interval when events occur in random manner. Extend the same for saturated lapse time measurement..	12
	b. Define Resolution in the context of time interval measurement and derive the expression for resolution in case of Vernier technique of measurement.	02
	c. If the main and Vernier oscillators have time periods of 10.006 and 10.001 micro seconds, respectively, and the time interval to be measured is 1410.05micro second, what would be the reading of the main and Vernier counters. Find the total measurement.	03
	d. In vernier technique of small time interval measurement, if t_x = 1.5 μs and T_m = 1 μs. For T_v = 0.9 μs find the main and vernier counter readings.	03
3.	a. Describe the operation of Power System Frequency Deviation Measurement along with appropriate circuit diagrams and waveforms.	10
	b. Explain in details the method to measure time interval between two	10

	events defined by voltage levels.	
4.	a. Define the following terms in context of Instrument Transformer 1. Transformation Ratio 2. Turns Ratio 3. Nominal Ratio 4. Ratio Error and 5. Phase Angle Error b. Derive the relationship for Actual Transformation ratio, phase angle and phase angle error for Current Transformer. (In deriving expectation is neat phasor diagram, definition of variables used, reasoning at steps.)	05 15
5.	a. Describe Moving Magnet Type and Seismic Type Velocity Transducer. b. Write short notes on Electrical Tachometers.	10 10
6.	a. Define direct type and indirect type of analog to digital converter. b. Describe flow measurement using thermistors. c. Describe resistive and Inductive methods of level measurements in detail.	02 08 10
7.	a. Explain five point calibration procedure and safety in instrumentation. b. Describe the need for calibration and standard calibration procedure.	10 10

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Re-Examination - July 2019 Examinations

Program: S.Y. B.Tech.(Electrical) **Duration: Three Hour**

Course Code: PC-BTE402 **Maximum Points: 100**

Course Name: Electrical and Electronic Measurement Semester: IV

Notes:
1. Question No. 1 is compulsory.
2. Solve any four questions from remaining six.
3. Draw neat diagrams.
4. Assume suitable data if necessary.

Q. No.	Questions	Points
1.	a. Describe working of Maxwell Inductance-Capacitance Bridge.	04
	b. Write in brief about phase measurement through time measurement.	04
	c. Define Sampling theorem, Time division multiplexing and Quantization.	06
	d. Describe LVDT Accelerometers.	06
2.	a. Describe the circuit with appropriate waveforms along with working principal for measurement of time interval when events occur in random manner. Extend the same for saturated lapse time measurement..	12
	b. Define Resolution in the context of time interval measurement and derive the expression for resolution in case of Vernier technique of measurement.	02
	c. If the main and Vernier oscillators have time periods of 10.006 and 10.001 micro seconds, respectively, and the time interval to be measured is 1410.05micro second, what would be the reading of the main and Vernier counters. Find the total measurement.	03
	d. In vernier technique of small time interval measurement, if t_x = 1.5 μs and T_m = 1 μs. For T_v = 0.9 μs find the main and vernier counter readings.	03
3.	a. Describe the operation of Power System Frequency Deviation Measurement along with appropriate circuit diagrams and waveforms.	10
	b. Explain in details the method to measure time interval between two	10

	events defined by voltage levels.	
4.	a. Define the following terms in context of Instrument Transformer 1. Transformation Ratio 2. Turns Ratio 3. Nominal Ratio 4. Ratio Error and 5. Phase Angle Error b. Derive the relationship for Actual Transformation ratio, phase angle and phase angle error for Current Transformer. (In deriving expectation is neat phasor diagram, definition of variables used, reasoning at steps.)	05 15
5.	a. Describe Moving Magnet Type and Seismic Type Velocity Transducer. b. Write short notes on Electrical Tachometers.	10 10
6.	a. Define direct type and indirect type of analog to digital converter. b. Describe flow measurement using thermistors. c. Describe resistive and Inductive methods of level measurements in detail.	02 08 10
7.	a. Explain five point calibration procedure and safety in instrumentation. b. Describe the need for calibration and standard calibration procedure.	10 10

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EVEN SEM RE-EXAMINATION

Program: Electrical Engineering | **Date July 2019**

Duration: 2 Hrs | **Course Code: BS-BTE402**

Maximum Points:50 | **Semester: IV**

Course Name: Medical Electronics

Note: Solve Any Five Questions

Q.No.	Questions	Max Points	CO No	BL	PI
1a	List bioelectric signals with associated instrument and its use. (Any Four)	05	01	02	1.3.1
b	Explain neuronal action potential	05	01	02	
2 a	State working principle of any four respiratory rate measuring instrument	05	01, 02	02, 03	1.3.1
b	Explain various types of transducers used in biomedical instrumentation	05	02	03	1.3.1
3	Write short note on a. Ambulatory Monitoring System b. Biotelemetry	10	03	02, 03	1.3.1
4	Compare a. Direct and Indirect methods of blood pressure measurement b. Average and Instantaneous heart rate meters	10	02	02	1.3.1
5 a	Compare different types of electrodes used in ECG measurement	05	01	03	1.3.1
b	Draw a block diagram of basic medical instrumentation system and discuss any four constraints for designing medical instruments	05	03	02	1.3.1
6 a	Explain cardiac cycle	05	01	02	
b	Explain how is the multiplexing used in biotelemetry	05	03	02	1.3.1

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Re-Exam - June 2019

Program: Electrical | **Duration: 3 hr**

Course Code: PC-BTE403 | **Maximum Points: 100**

Course Name: Signals & Systems | **Semester: IV**

Notes: 1) Solve any five questions

2) Assume suitable data if required and state the assumption clearly.

Q. No.	Questions	Pts	CO	BL
1a	Classify following system as static/dynamic, linear/non-linear, time-variant/invariant, causal/non-causal and stable/unstable, $y(t) = x^2(t)$.	05	01	02
1b	Determine the output of the system if input $x[n] = \{2,4,0,-4,-2\}$ and impulse response $h[n] = \{2, 0, -2\}$.	05	01	02
1c	Given DT signal x[n]=u[n] +2u[n-2], plot x[2-n] .	05	01	02
1d	If $X(z) = \frac{z}{2z^2-3z+1}$ determine x[n} using long division method if |z| < 0.5. (atleast four samples)	05	05	02
2a	Calculate the value of e^t u(t)* e^{-t} u(t) using continuous time linear convolution.	10	02	03, 04
2b	Consider a system described by the difference equation y[n] = y[n-2] + 2 y[n-1] +10 x[n] + 4 x[n-1]. Find the response of the system to the input $x(n) = (0.5)^n u(n)$. Initial conditions in the system are y(-1) = 10 and y(-2)= 1.	10	02	03
3a	State and prove following properties of Fourier Transform Duality ii) Convolution	08	03	02
3b	Find the exponential Fourier Series and plot the magnitude and phase spectrum of the signal $f(t) = 10 + \cos(\frac{3}{4}\pi t + \frac{\pi}{3}) + \sin(\frac{3}{4}\pi t + \frac{\pi}{3}) + \sin(\frac{6}{4}\pi t)$.	06	03	04
3c	Consider a LTI system with transfer function $H(j\omega) = \frac{j\omega+2}{(j\omega+5)(j\omega+3)}$. Determine its impulse response. Also determine output if input applied is $x(t) = e^{-2t} u(t)$.	06	03	04

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SARDAR PATEL COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)

Munshi Nagar, Andheri (W) Mumbai – 400058

Re-Exam - June 2019

4a	Consider a causal LTI system characterized by differential equation $\frac{dy}{dx} + \frac{1}{6}y(t) = 3x(t)$. Determine transfer function, impulse response, output response of the system to the input $x(t) = e^{\frac{t}{3}}u(t)$. Draw pole zero plot and comment on the stability of the system.	10	04	03, 04
4b	Find the inverse Laplace Transform of X(s) $= \frac{3s+4}{(s+1)(s+2)^2}$ if the convergence regions are i) -2 <Re(s)< -1 ii) Re(s)> -1 iii) Re(s)< -2	10	04	03
5a	Determine inverse Z-transform of $X(z) = \frac{z-5}{(z-2)(z-3)(z-1)}$.	10	05	03
5b	State and prove time initial and final value theorem of Z-Transform and hence determine these values for x[n] if $X(z) = \frac{z-5}{(z-2)(z-3)(z-1)}$.	10	05	03
6a	A causal DT system is described by $y[n] - \frac{3}{4}y[n-1] + \frac{1}{8}y[n-2] = x[n]$ where x[n] and y[n] are the input and output of the system, respectively. Determine transfer function, impulse response and response to unit step input. Draw pole zero plot. Test if the system is stable? (use Z-transform)	10	05	03, 04
6b	Obtain Direct form I and Direct form II realization of a system with transfer function $H(z) = \frac{5z^2+7z+10}{z^3-3z^2+2z-5}$.	10	05	03

Bharatiya Vidya Bhavan's
Sardar Patel College of Engineering
(A Government Aided Autonomous Institute)
Munshi Nagar, Andheri (West), Mumbai – 400058

Re Examination
JUNE 2019

Program: S.Y.B.Tech Mech/ Electrical

BTE232
Course code: ~~BPC306~~
Duration: 2 hrs.
Maximum Marks: 50

Name of the Course: Organizational Communication &Interpersonal Skills

Semester: ~~III~~ IV

Question No.	• **Question No. 1 is compulsory.** • **Remaining 6 Questions attempt any Four**	Maximum Marks	CO	Module No.
Q1. A				
	As a General Secretary you have got complaints about the discipline amongst students of your college. Draft a report in memo form informing the principal about the present condition and the reasons for indiscipline amongst students giving recommendations for improving the condition. You are requested to apply effective methods for collecting information. (Use Memo format)	10	02,03	04
Q2. A.	Carefully examine the following case and answer the following questions: Mr. Sohan Lal started in 1980 a music cassette recording company on a very small scale. In a short span of five years his company's sales almost equaled the combined sales of the then three leading music recording companies in India. This could be made possible because of Mr. Lal's business acumen, extraordinary managerial skills, imaginative sales promotion programs, and above all his ear for good music and lower overhead expenses. Encouraged by the enormous success of his music recording company, Mr. Sohan Lal ventured into other manufacturing activities. Throughout this period Mr. Lal found it difficult to delegate authority and continued making all final decisions on new products, products plans, capital budgeting, advertising, pricing policies, sales plans, hiring of staff, and labor union and other matters. Senior key executives started feeling frustrated due to the Chairman's unwillingness to delegate authority. Some of the newly set up units, which turned out to be non-profitable, were closed down after a few years of their setting up. (a) What could have been the possible reasons of Mr. Lal's reluctance to delegate authority? How you would have convinced Mr. Lal about the utility of delegating authority?	05	01, 02	01

B.	Explain in brief the elements of a back matter of the report	05	02, 03,	04
Q.3. A.	What etiquette tips will you give to the final year students who have got placements to maintain a professional work environment at office?	05	04,05	02
B.	Briefly define the Notice, Agenda and Minutes of the meeting. What strategies are to be followed for effective meetings?	05	01,02	03
Q.4. A	Imagine you are the secretary in attendance at the 54th meeting to be conducted for celebrating the Foundation Day of your institute on January19' 2017. Draft the notice, Agenda and minutes of the meeting assuming the agenda as follows: Also decide the members who will be attending the meeting and the list of invited members. Agenda 54.01 Confirmation of minutes of the previous meeting 54.02 Matter from previous minutes 54.03 Events to be organized 54.04 Budget for the event 54.05 Mementoes and certificates 54.06 List of invitees 54.07 Date for the next meeting 54.08 Any other matter with the permission of the chairperson.	10	01, 03	03
Q.5. A	Explain the three leadership styles in brief. Describe the measures that can be taken for developing leadership ability of managers.	05	03	06
B.	Your friend has a technical paper presentation along with power point slides in 10 days. What tips will you provide him for an effective presentation	05	04, 05,	05
Q.6.A.	What is a Resume? What needs to be focused while writing a resume	05	01, 02, 03	07
B.	What are the various Do's and Dont's for an interview?	05	01, 02, 03,	07
Q.7. A.	Draft an application letter along with Resume for the post of a Senior supervisor at a construction site of Lodha Group of companies in Mumbai. Attach a suitable Resume showing about 2 years work experience, and good communication skills with fluency in Marathi language. An additional qualification in environment and water conversation is preferred.	10	01, 02, 03	07