

Digital Logic Design (For GTU)

Seat No.:

Enrolment No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-III Examination May 2011

Subject code: 131101
Date: 30/05/2011

Subject Name: Basic Electronics
Time: 10.30am to 1.00pm
Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Prove that the minority carrier concentration, in an n-type semiconductor bar which was momentarily illuminated, decreases exponentially with time. 07
(b) Derive continuity equation and explain its importance. 07
- Q.2 (a) When a diode is driven from forward condition to reverse condition, draw and explain waveforms for (1) minority carrier concentration at the junction of the diode (2) current flowing through the diode circuit, and (3) voltage across the diode. Assume resistance (R_s) is present in series with diode. 07
(b) A symmetrical 5-kHz square wave whose output varies between +10 V and -10 V is impressed upon the clipping circuit shown in Fig. 1. Assume diode forward resistance (R_f) as zero, diode reverse resistance as (R_r) 2M, diode cut-in voltage (V_c) as zero. Sketch the steady-state output waveform, indicating numerical values of the maximum, minimum, and constant portions. 07
- OR
- (b) Design a Zener regulator (Fig. 2) for following specifications: load current $I_L = 20$ mA, output voltage $V_o = 5$ V, Zener wattage $P_Z = 500$ mW, Input voltage $V_i = 12 \pm 2$ V, and $I_{Z(max)} = 8$ mA. 07
- Q.3 (a) A silicon transistor with $V_{BE(sat)} = 0.8$ V, $\beta = h_{FE} = 100$, $V_{CE(sat)} = 0.2$ V is used in the circuit shown in Fig. 3. Find the minimum value of R_C for which the transistor remains in saturation. 07
(b) Derive expressions for A_v , R_i , A_{v_s} , and Y_o in terms of CE h-parameters for emitter-follower circuit. 07
- OR
- Q.3 (a) Represent/derive CC h-parameters (h_{ie} and h_{ic}) in terms of CE h-parameters. 07
(b) Explain the base-width modulation and its effect on minority-carrier concentration in the base region of a transistor as well as on the common-base input characteristics of a typical p-n-p transistor. 07
- Q.4 (a) Define stabilization factors: S , S' , and S'' . Derive expressions for S and S' for self-bias transistor circuit. 07
(b) Derive an expression for voltage gain (A_v) for CS amplifier with an bypassed source resistance R_s . 07
- OR
- Q.4 (a) The fixed-bias circuit is given in Fig. 4 and it is subjected to an increase in temperature from 25°C to 75°C . If $\beta = 100$ at 25°C and $\beta = 125$ at 75°C , determine the percentage change in Q point values (V_{CE} , I_C) over the temperature range. Neglect any change in V_{BE} . Take $V_{BE} = 0.7$ V. 07

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Digital Logic Design has been specifically designed and written to meet the requirement of the BE/BTech students of GTU. The use of digital electronics is. Rationale: This subject focuses on the study of digital electronics and digital logic along with the basics of. Digital Circuits. It also briefs the students about. BOOLEAN ALGEBRA AND LOGIC GATES: Basic Definition, Logic Operations, Digital Logic Gates, IC digital Logic Families. 5. 3 should be sent to GTU. GTU Digital Logic Design Syllabus. GUJARAT TECHNOLOGICAL UNIVERSITY B.E Semester: 3. Computer Engineering Subject Code. Digital Logic Design (Gtu) [ARIVAZHAGAN S SALIVAHANAN S] on tektienen.com *FREE* shipping on qualifying offers. Digital Logic Design (Gtu) by S Salivahanan, , available at Book Depository with free delivery worldwide. Digital Logic Design gtu 3rd sem paper - Free download as PDF File . pdf), Text File .txt) or read online for free. Digital Logic Design. Digital Logic Design. Course code: GTU/NITTTTR/Bhopal/ Gujarat State. 1. GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT. Digital Logic Design (GTU) 1st Edition - Buy Digital Logic Design (GTU) 1st Edition by salivahanan, s author; arivazhagan, s author; only for Rs. at.tektienen.com Electronics & Communications Engineering Branch Old Question Papers. DIGITAL LOGIC DESIGN. Winter pdf.[1] This set of Assignment-Tutorial consist the collection of questions of past GTU. Question papers. [2] Attend those questions which are bold marked and/or. GTU Electronics & Communication Engineering Study Material, GTU Engineering Material, GTU - Basic Electronics - Digital Electronics. Sr, Title, Author, Publication, Amazon Link. 1, Digital Logic & State Machine Design, David J. Comer, Oxford University Press. 2, Digital Logic and Computer. Subjects - Electronics & Communication Engineering GTU Code, Subject ShortName, Subject, Lect. Prac. , DLD DIGITAL LOGIC DESIGN. Digital Logic Design (GTU) by S Arivazhagan, S Salivahanan. our price , Save Rs. Buy Digital Logic Design (GTU) online, free home delivery. Digital Logic Design (Gtu) by ARIVAZHAGAN S SALIVAHANAN S at AbeBooks. tektienen.com - ISBN X - ISBN - Vikas Publication. Database Systems Concepts Sixth Edition. Rs Add To Cart. Gilder: Life After Television - Rs Add To Cart. Advance Java Technology. hello everyone!! now GTU papers is also available at tektienen.com and this is previous year paper of DIGITAL LOGIC DESIGN OF GTU. Buy online - Digital Logic Design (GTU Series) by Vishvijit Thakar, Bhavik Patel, Kalpesh Shah - This book is intended to serve as a first level course on Digital. Searching for many sold publication or reading resource DIGITAL LOGIC. DESIGN GTU? We supply them done in format kind as word, txt, kindle, pdf, zip, rar and. DIGITAL LOGIC DESIGN (GTU): ARIVAZHAGAN S SALIVAHANAN S: Books - tektienen.com

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