Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, Belgaum)
OORGAUM, K.G.F. - 563 120.

Assignment / Quiz / Class Test
Certificate

This is to certify that Mr. / Ms. __Kanisha.R__

bearing USN. No. __1GV19EC017__ has satisfactorily completed the course of Tests and assignments as prescribed by Visvesvaraya Technological University for __III__ Semester B.E./ M.Tech, Degree in __ECE__ Branch / Specialization for the academic year __2020-2021__ for the Subject __Digital System Design__ and Code __18EC34__

For Departmental Use Only :

Date	Particulars	Max Marks	Marks obtained	Signature of Faculty	Signature of Student
	A/Q/CT	10	9.3	M	Kanisha R
	A/Q/CT	10	9	M.	Kanisha R
	A/Q/CT	10	8.6	M	Kanisha R

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Head of the Department
Dept. of Electronics and Communication Engg.
Dr. T.Thimmaiah Institute of Technology
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Assignment / Quiz / Class Test

Certificate

This is to certify that Mr. / Ms. _Divya Priya G.P._
bearing USN. No. _1GV19EC009_ has satisfactorily completed
the course of Tests and assignments as prescribed by Visvesvaraya
Technological University for _IV_ Semester B.E./ M.Tech, Degree in
ECE Branch / Specialization for the academic year _2021-22_
for the Subject _Analog circuits_ and Code _____

For Departmental Use Only :

Date	Particulars	Max Marks	Marks obtained	Signature of Faculty	Signature of Student
1/6/21	A/Q/CT	10	6		Divyapriy..
21/6/21	A/Q/CT	10	10		Divyapay
23/8/21	A/Q/CT	10	10		Divyapriya

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Head of the Department
Dept. of Electronics and Communication Engg.
Dr T.Thimmaiah Institute of Technology
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Department of Mechanical Engineering

2018 Scheme

B.E. VII Semester Quiz

Academic Year: 2020-21

Course Name:-Control Engineering

Date:18/10/2020

Course Instructor:- Sagar S

Course code:- 17ME73

Max marks: 30

Online Quiz using Google Forms:

Each question carries 2 marks answer all the questions:

1) Control action is also called as ----------------
   a) Input signal
   b) Error signal
   c) Variant signal
   d) Manipulated signal

2) By using which of the following elements, mechanical translational systems are obtained?
   a) Mass Element
   b) Spring Eement
   c) Dash pot
   d) All of the above

3) The output of the system has an effect upon the input quantity, then the system is a
   a) Open loop control system
   b) Closed loop control system
   c) Either 1 or 2
   d) None of the above

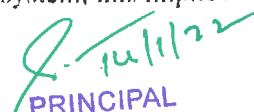4) Which one of the statement is false for closed loop control system

a) Economical

b) Complex

c) Accurate

d) Reduces the overall gain of the system

5) Advantages of open loop control system is/are
   a) Simple and economical
   b) Accurate
   c) Reliable
   d) All the above

6) Feedback control systems are referred to as closed loop systems.
   a) False
   b) True
   c) None
   d) Both a& b

7) What is the effect of feedback in the overall gain of the system?
   a) Increases
   b) Zero
   c) Decreases
   d) No change

Answer: c

Explanation: The feedback reduces the overall gain of the system. As soon as we introduce feedback in the system to make the system stable, gain is reduced.

8) Which of the following is not the feature of modern control system?
   a) Quick response
   b) Accuracy
   c) Correct power level
   d) No oscillation

9) The output of the feedback control system must be a function of:
   a) Reference input
   b) Reference output
   c) Output and feedback signal
   d) Input and feedback signal

10) The closed system has higher _____ than open loop control system, this implies increased speed of response.

    a) Gain

    b) Bandwidth

    c) Frequency

    d) Speed

11) Effect of feedback on sensitivity is minimum in:

    a) Open loop control system

    b) both a& c

    c) Closed loop control system

    d) Both of the mentioned

12) Feedback can always reduce the effects of noise and disturbance on system performance?

    a) True

    b) False

    c) Independent on Disturbances

    d) None

13) Multiple signals as input can be used in which systems:

    a) Feedback systems

    b) Non feedback systems

    c) Feedforward systems

    d) None of the mentioned

14) Which of the following is an example of an open loop system?

    a) Household Refrigerator

    b) Automobile control system

    c) Stabilization of air pressure entering into the mask

    d) Execution of program by computer

Answer: d

Explanation: Execution of a program by a computer is an example of an open loop system as the feedback mechanism is not taken by the computer program and set programs are used to get the set output.

15) Spring constant in force-voltage analogy is analogous to?

    a) Capacitance

    b) Reciprocal of capacitance

    c) Current

    d) Resistance   Answer: b

Explanation: Spring constant in force-voltage analogy is analogous to reciprocal of the capacitance ie, $k=1/c$ which is also series analogy.

Department of Mechanical Engineering

2018 Scheme

B.E. VII Semester Class test

Academic Year 2020-21

Course Name:- Control Engineering   Course code:- 17ME73

Date: 19/1/2021   Max marks: 30

Course Instructor:- Sagar S

Answer any one question from Part A and Part B which carries 12 Marks and answer one question from part C which carries 6 Marks.

Part A

1. Sketch the root locus plot for a given open loop transfer function G(s) H(s)= $K(S+6)/(S+1)(S+3)$ and comment on stability.
2. Sketch the root locus plot for a given open loop transfer function G(s) H(s)= $K(S+1)/s^2(S+3)(S+5)$ and comment on stability.
3. Sketch the root locus plot for a given open loop transfer function G(s) H(s)= $K/(S+2)(S^2+8S+20)$ and comment on stability.
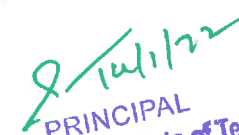
Part B

4. Sketch the Bode Plot for G(s) H(s) = $K/S(S+4)(S+10)$ and also obtain Gain Margin, Phase Margin, Gain cross over frequency and phase cross over frequency.
5. Sketch the Bode Plot for G(s) H(s) = $KS^2/(1+0.02S)(1+0.2S)$ and Determine the value of K for the gain cross over frequency to be 5 rad/sec.
6. Sketch the Bode Plot for G(s) H(s) = $Ke^{-0.1S}/S(1+S)(1+0.1S)$ and Determine the value of K for the gain cross over frequency to be 5 rad/sec.

Part C

7. Using RH Criteria determine the value of K and intersection point
   $SS4+6S3+13.5S2+13.5S+K=0$ (OR) $S4+10S3+36S2+40S+K=0$

Course Instructor   HOD

Department of Mechanical Engineering

2018/15 Scheme

B.E. VII Semester Assignment

Academic Year 2020-21

Course Name: Control Engineering

Course code:- 17ME73

Assigned Date: 9/11/2020

Max marks: 30

Course Instructor:- Sagar S

Submission Date: - 12/11/2020

Answer all Questions/Any Questions (As per the course instructor)

1) Sketch the Root Locus Plot for the given system with open loop transfer function $G(s)H(S) = \dfrac{K}{S(S+3)(S^2+3S+4.5)}$ and also comment on stability

2) Sketch the Root Locus Plot for the given system with open loop transfer function $G(s)H(S) = \dfrac{K}{S(S+3)(S^2+3S+11.25)}$ and also comment on stability.

3) Sketch the Root Locus Plot for the given system with OLTF $G(s)H(S) = \dfrac{K}{S(S+2)(S^2+8S+20)}$ and also comment on stability.

4) Sketch the Root Locus Plot for the given system with OLTF $G(s)H(S) = \dfrac{K}{S(S+2)(S+4)}$ and also comment on stability.

5) Sketch the Root Locus Plot for the given system with OLTF $G(s)H(S) = \dfrac{K}{S(S+3)(S+5)}$ and also comment on stability.

Course Instructor

HOD

F.No:DrTTIT/IQAC/2020-21/069AP

Department of Mining Engineering

2018 Scheme

B.E. 4th Semester First Assignment

Academic Year 2020-21

Course Name: Thermodynamics & Fluid Mechanics	Course code:18MN46
Assigned Date:21.05-21	Max marks:30
Course Instructor: Mahendran.J	Submission Date: 30.05-21

Answer Any 6 Questions each carries 5 marks

1. With examples distinguish between.
   i. open and closed system ii. Extensive and Intensive properties
   iii. Reversible and irreversible process iv. Path and Point function.
2. With PV diagram, derive an expression for work done in
   i. Isochoric ii. Isobaric iii. Polytropic process

3. Explain what do you understand by thermodynamic equilibrium and state Zeroth Law.

4. Define thermodynamic system and give classification of thermodynamic system.

5. A gas confined in a cylinder by a piston is at pressure of 3 bar and a volume of $0.015m^3$. the final pressure is 1.5bar. Determine the magnitude & direction of work transfer for the following processes.
   i. $P \alpha v$ ii. $P \alpha 1/v$ iii. $P \alpha v^2$ iv. $P \alpha 1/v^2$

6. Explain the 1st law of thermodynamics for a system undergoing a cycle & a change of state.

7. Define energy. Explain the classification of energy.

8. Explain the corollaries of 1st law of thermodynamics.

9. State & Explain Kelvin-Plank and Clausius statement for the 2nd law of thermodynamics.

10 Explain with neat sketch Joule's experiment for 1st law of thermodynamics.

Course Instructor

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F. No:069CP

Department of Mining Engineering
2017 Scheme

B.E. VIII Semester Assignment for IIIrd IA
Academic Year 2020 - 2021

Course Name: Computer Application in Mining
Assigned Date: 13.07.2021
Course Instructor: Paul Prasanna Kumar

Course code: 17MN82
Max marks: 30
Submission Date: 22.07.2021

Answer all the questions, each carries 5 marks

1) Discuss the Six ground rules in designing graphics software
2) Explain the functions of a graphics package
3) Explain wire frame and solid edge with advantages & disadvantages
4) Interpret the applications of computer in mining engineering
5) Discuss about the three modules of graphics software
6) Interpret the process of constructing the geometry

Course Instructor

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F. No:069AP

Department of Mining Engineering
2017 Scheme

B.E. VIII Semester Quiz for Ist IA
Academic Year 2020 - 2021

Course Name: Computer Application in Mining

Course Instructor: Paul Prasanna Kumar

Course code: 17MN82
Max marks: 30
Date: 17.05.2021

Answer all the questions

1. CAD Came into existence by
   a) Dr. Robert Issac Newton
   b) Ivan Sutherland
   c) Dr. P. J. Hanratty
   d) Shigleg

2. Who invented CAD in 1961 for his Doctoral Thesis?
   a) Dr. Robert Issac Newton
   b) Ivan Sutherland
   c) Dr. P. J. Hanratty
   d) Shigleg

3. The Computer Communicates with the user via a
   a) Light Pen,
   b) Sketch Pad,
   c) ICG
   d) cathode ray tube

4. Interactive computer graphics
   a) It is a tool
   b) Communicator
   c) Screen
   d) Input device

5. The fundamental reasons for implementing a computer-aided design system are
   a) To increase the productivity of the design
   b) To improve the quality of design
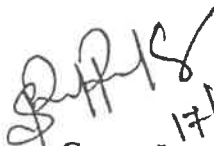   c) To improve communications
   d) All the above

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6. Design process was named after
   a) Dr. Robert Issac Newton
   b) Ivan Sutherland
   c) Dr. P. J. Hanratty
   d) Shigleg

7. In Evaluation requires the fabrication & testing of a prototype model to
   a) Assess
   b) Redesign
   c) Create
   d) all the above

8. CAD is used in the following fields, choose the Odd one
   a) Mining field
   b) Civil field
   c) Medical field
   d) Automobile field

9. Match the Following
   a) Synthesis   Engineering Analysis
   b) Analysis & Optimization   Automated drafting
   c) Evaluation   Geometric Modeling
   d) Presentation   Design Review

10. Analysis of mass properties provides properties such as
    a) Weight
    b) triangular shapes
    c) stress- strain
    d) heat transfer

11. ADAMS was developed at university of
    a) Massachusetts University
    b) British Columbia University
    c) McGill University
    d) Michigan University

12. Other names for stroke-writing technique are
    a) line drawing
    b) digital TV
    c) Scan graphics
    d) graphics terminals

13. Other names for Raster scan technique include
    a) line drawing
    b) digital TV
    c) random position
    d) vector writing

14. The computer has grown to become essential in the operations of
    a) Business
    b) Government
    c) the military
    d) all the above

15. The typical interactive computer graphics is a combination of
    a) hardware & software
    b) light pad & sketch pad
    c) directed-beam
    d) direct-view beam

16. The Hardware includes a
    a) central processing unit
    b) printers
    c) plotters
    d) all the above

17. Benefits of Computer-Aided Design
    a) Increase in Productivity
    b) Improvement in Design
    c) Fewer design errors
    d) All the above

18. How many types of commands are used by the designer to constructs the graphical image of the object?
    a) 2
    b) 3
    c) 4
    d) 5

19. CAD systems can increase productivity in the drafting function by roughly how times over manual drafting
    a) 5
    b) 10
    c) 15
    d) 20

20. The disadvantages of the batch mode is
    a) time lag
    b) poor design
    c) low quality
    d) all the above

21. The workstation must accomplish the following functions
    a) To increase the productivity of the design
    b) To improve the quality of design
    c) To improve communications
    d) None of the above

22. Which of the following is not a graphics terminals
    a) directed-beam refresh
    b) direct-view storage tube
    c) raster scan
    d) stroke writing

23. Disadvantages of direct view storage tube are
    a) lack of colour capability
    b) the inability to use a light pen
    c) lack of animation capability
    d) all the above

24. The capabilities of multicolored images and animated pictures in computer graphics are largely dependent on
    a) Hardware
    b) Software
    c) screen clarity
    d) system specifications

25. The typical colour CRT uses three electron beams of colours
    a) red, green and blue
    b) red, orange and green
    c) orange, green and blue
    d) none of the above

26. How many function keys are available in key board?
    a) 9
    b) 12
    c) 18
    d) 24

27. Which technology tends to increase the CPU
    a) Embedded system
    b) VSLI
    c) ML
    d) Python

17/5/2021
Course Instructor

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F.No-DrTTIT/IQAC/2020-21/069AP

Department of Mining Engineering

2017Scheme

Other Assessment Scheme & Solution

B.E, VIIISemester Ist Internal Quiz

Course Name:Computer Application in Mining   Course Code:17MN82Course Instructor:Paul
Prasanna KumarMax Marks:30

Date: 17.05.2021

Q.No.	Brief Solution		Allotted Marks
1	Dr. Robert Issac Newton		1
2	Ivan Sutherland		1
3	Cathode Ray Tube		1
4	It is a tool		1
5	All the above		1
6	Shigleg		1
7	Assess		1
8	Medical field		1
9	Synthesis	Geometric Modelling	4
	Analysis & Optimization	Engineering Analysis	
	Evaluation	Design Review	
	Presentation	Automated drafting	
10	Weight		1
11	Michigan University		1
12	line drawing		1
13	digital TV		1
14	all the above		1

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15	hardware & software	1
16	all the above	1
17	All the above	1
18	3	1
19	5	1
20	time lag	1
21	None of the above	1
22	stroke writing	1
23	all the above	1
24	Hardware	1
25	red, green and blue	1
26	12	1
27	VSLI	1

17/5/2021

Course Instructor

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F. No:069CP

Department of Mining Engineering
2017 Scheme

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13/7/2021

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