

FACULTY OF ENGINEERING

B.E. 2/4 (EEE/Inst.) II-Semester (Backlog) Examination, Dec. 2019 /Jan. 2020

Subject: Electronic Engineering - II

Time : 3 Hours

Max. Marks: 75

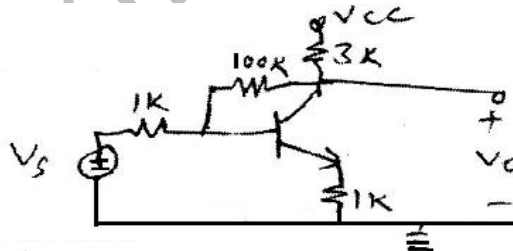
Note: Answer all questions from Part - A & any five questions from Part – B.

PART - A (25 Marks)

1. Give brief classification of amplifiers?
2. What is the effect of cascading on gain and band width in amplifiers?
3. What are the characteristics of negative feedback in amplifiers?
4. What is the effect of negative voltage shunt feedback on R_i and R_o of amplifier?
5. What is Barkhausen criteria for oscillators?
6. Draw circuit of Colpitts-oscillator?
7. Define: efficiency, power dissipation and harmonic distortion for power amplifiers?
8. How cross-over distortion can be eliminated in power amplifiers?
9. Draw a negative clipper and explain briefly?
10. State clamping theorem?

PART - B (5x10 = 50 Marks)

11. Derive expressions for Mid-band gain and lower cut-off frequency for a single stage RC coupled BJT amplifier?
12. Find R_{msf} and R_{if} for the circuit shown. Assume suitable data?



13. Derive expressions for frequency of oscillations and condition of oscillations for Weinbridge oscillator?
14. Draw circuit of class-A power amplifier, explain operation and find its efficiency?
15. Obtain response of a RC High pass circuit for Step input?
16. a) Explain step response of amplifiers?
b) Write about local versus global feedback?
17. Write short notes on any two of the following
 - a) crystal oscillator
 - b) class-AB power amplifier
 - c) Frequency stability of feedback amplifiers

FACULTY OF ENGINEERING**BE 2/4 (ECE) II Semester (Backlog) Examination, December 2019 / January 2020****Subject: Switching Theory and Logic Design****Time: 3 Hours****Max. Marks: 75****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****Part – A (25 Marks)**

1. Convert the following decimal into indicated base: 1938.257 to hexadecimal.
2. Differentiate between weighted and un-weighted code with examples.
3. Simplify the following Boolean function using three variable map
 $f(x,y,z) = \sum m(1, 2, 3, 6, 7)$
4. Draw the NAND logic diagram for the compliment of the function
 $f(w,x,y,z) = \sum m(0, 1, 2, 3, 4, 8, 9, 12)$
5. Design a Full Adder logic circuit using Half Adder logic Circuits?
6. Draw the Pin configuration of IC 74138?
7. List out the differences between Latches and Flip-Flop?
8. How does Race around condition in JK flip-flop occur?
9. List the differences between Synchronous and Asynchronous counters?
10. Define the terms state diagrams 'State table' and 'State Assignment'?

Part – B (50 Marks)

11. For the given three Boolean expressions $f(a, b, c) = \sum m(0, 1, 3, 4, 7)$
 - (i) Draw the logic circuit for original expression using Basic Logic gates?
 - (ii) Reduce the Boolean expression using Boolean algebra?
 - (iii) Draw the logic circuits for the reduced expression using basic logic gates?
 - (iv) What is your observation after solving (i) and (iii) 10M
12. a) Simplify the following logic function using K-map and implement it with NAND gates only. $f(a, b, c, d) = \sum m(0, 6, 8, 13, 14) + d(2,4, 10)$ 5M
 b) Simplify the following switching expression using QM method
 $f(a, b, c, d) = \sum m(0, 2, 3, 5, 8, 12, 13)$ 5M
13. a) Implement the following Boolean function with an 8 to 1 line multiplexer and a single inverter $H(A, B, C, D) = \sum m(2, 3, 5, 6, 8, 9, 12, 14)$ 5M
 b) What is a Decoder? Draw the logic diagram of 3 to 8 decoder with only NOR and NOT gates. Include an Enable input. 5M
14. a) Explain SR Flip-Flop operation? Derive its truth table, characteristic table, characteristic equation and excitation table? 5M
 b) Convert DFlip-Flop into JK Flip-Flop using truth table and excitation tables? 5M
15. Design a 4-bit UP Counter and implement it using JK Flip-flop? 10M
16. a) Explain the operation of Ripple Carry Adder? 5M
 b) Explain the following function in Sum of Min-terms and Product of Max-terms
 $f(A,B,C, D) = B'D+A'D+BD$ 5M
17. a) Simplify the following logic function using K-map and implement it with NAND gates only $f(a, b, c, d) = \sum m(1, 3, 5, 7, 9, 15) + d(4, 6, 12, 13)$ 5M
 b) Explain the operation of 8:3 priority encoder with the help of a function tables and differentiate it with respect to an encoder. 5M

FACULTY OF ENGINEERING

B.E. 2/4 (M/P/CSE) II - Semester (Backlog) Examination, Dec. 2019 / Jan. 2020

Subject: Electrical Circuits & Machines

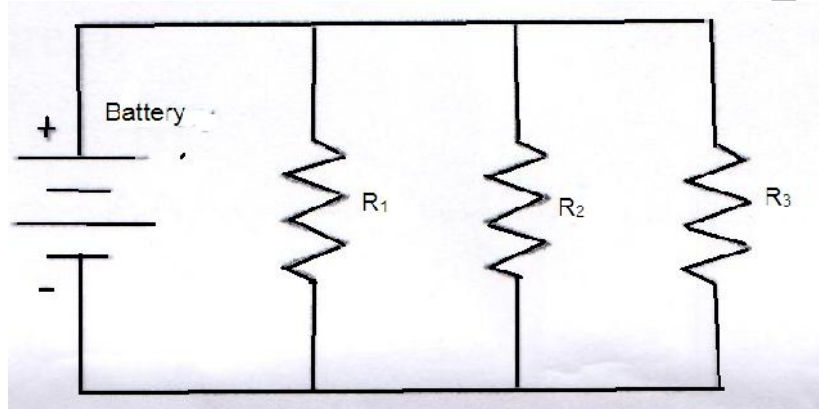
Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A & any five questions from Part-B.

PART – A (25 Marks)

- 1 Calculate current flow when 10 V battery connected for the circuit shown below, where all resistors have same value of resistance 3Ω . (3)

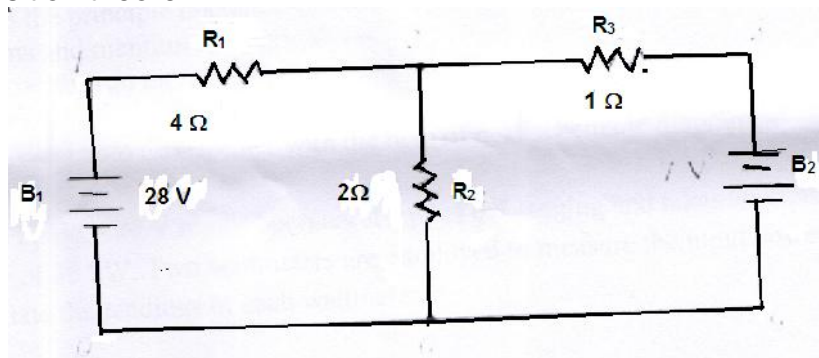


figure

- 2 Define power factor. (2)
- 3 Give the relation between the line and phase value of voltage and current for star connection. (2)
- 4 Give the application of stepper motor. (2)
- 5 An 8-pole, lap wound armature has 1200 conductors and flux per pole of 0.02 Wb. Determine the generated emf when running at 600 rpm. (3)
- 6 Mention the various losses in DC machine. (2)
- 7 Compare 3-phase squirrel cage and 3 – phase slip ring induction motors. (2)
- 8 Compare conventional DC motor and BLDC motor. (3)
- 9 Give the basic principle operation of a 1 – phase transformer. (3)
- 10 Define synchronous speed, and slip of 3 – phase induction motor. (3)

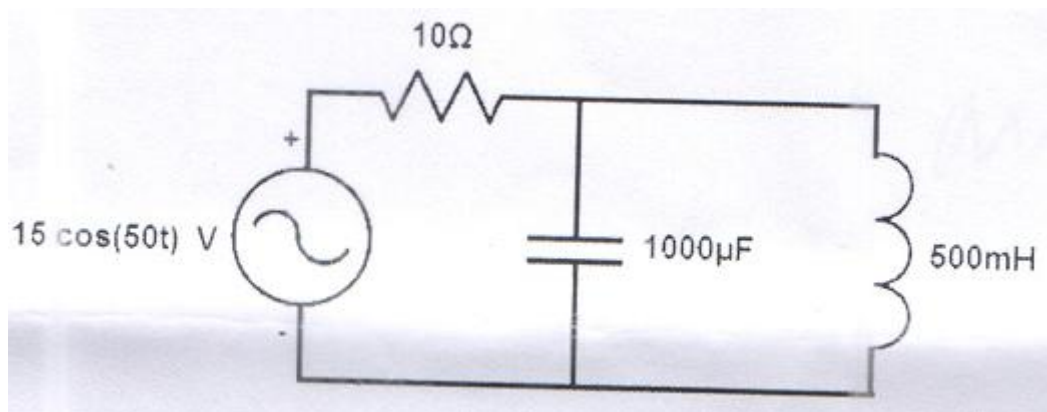
PART – B (50 Marks)

- 11 (a) State and explain Norton's theorem. (5)
- (b) For the circuit shown below find current flow in 2Ω resistance by using superposition theorem. (5)



..2..

- 12 (a) Calculate current flow in $10\ \Omega$ resistor for the circuit given below: (5)



- (b) Derive the expression for energy stored in capacitance. (5)
- 13 (a) Explain the construction details and principle operation of transformer. (5)
 (b) A 1 – phase transformer working at 0.8 pf lagging has an efficiency of 97% at both half load and at full load of 300 KW. Determine the efficiency at 90% of full load. (5)
- 14 (a) Explain the different types of excitations for D.C. generators with neat circuit diagram. (5)
 (b) Explain the different types of excitations for D.C. generators with neat circuit diagram. (5)
- 15 (a) Explain speed control of 3 – phase induction motor. (5)
 (b) The motor of an 8 – pole, 50 Hz, 3 – phase induction motor has a resistance of $0.2\ \Omega$ per phase and runs at 250 rpm. If the load torque remains unchanged, calculate the additional rotor resistance that will reduce its speed by 10% neglect rotor impedance. (5)
- 16 Explain the principle operation of following motors with neat schematic diagrams and mention its applications (5+5)
 (a) Capacitor run motor
 (b) Stepper motor
- 17 (a) Explain the auto transformer with the help of neat schematic diagram. (5)
 (b) A 3 – phase 400 V motor operates at a pf of 0.7 lagging and takes an input power of 35 kW. Two watt meters are employed to measure the input power. Calculate the readings of each wattmeter. (5)

FACULTY OF ENGINEERING

B.E. 2/4 (A.E) II - Semester (Backlog) Examination, December 2019 / January 2020

Subject: Automotive Petrol Engines

Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part A and any five from Part B

PART – A (25Marks)

1. Define firing orders?
2. Draw and label the indicator diagram for 4-stroke SI engine.
3. Why a rich mixture is required for Idling?
4. Draw a neat sketch of simple carburetors.
5. Why spark advance is required? Explain.
6. What are the advantages of vacuum spark advance Mechanism?
7. What are the factors to be considered while designing a combustion chamber?
8. Define knocking.
9. State the various reasons for cooling an I.C. Engine.
10. List some good properties of lubricate used in IC engine.

PART – B (5x10=50 Marks)

11. Why actual cycle efficiency less than air standard cycle efficiency? Explain in detail.
12. What are starting, Idling, acceleration and normal circuits of carburetors? Explain with suitable sketches.
13. a) Briefly discuss the various factors which effects the ignition timing.
b) Explain centrifugal spark advance Mechanism with neat sketch.
14. a) Explain the various factors that influence the flame speed.
b) Explain the phenomina of knock in SI engine.
15. a) With a neat sketch explain forced circulation cooling system.
b) Draw a neat sketch of petrol –oil lubrication system and explain its working principle.
16. a) What is hot plug and cold plug in spark plugs. Explain with suitable sketch.
b) Define rate of pressure rise and explain on what parameters it depends?
17. Answer the following questions with neat sketches.
 - (a) Fuel feed pump
 - (b) Types of combustion chambers
 - (c) Pressure cooling system.

FACULTY OF ENGINEERING

B. E. 2/4 (IT) II – Semester (Backlog) Examination, Dec. 2019 / January 2020

Subject: Signals & Systems

Time: 3 hours

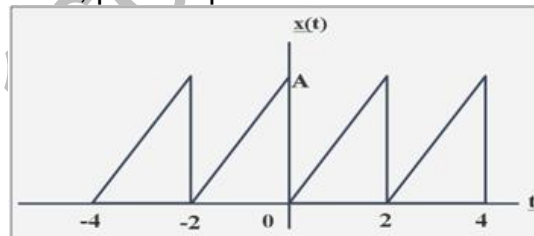
Max. Marks: 75

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.**PART – A (25 Marks)**

1. Define unit impulse and unit step signals. 2
2. Find the even & odd components of e^{j3t} . 3
3. Write the conditions for existence of Fourier series. 3
4. How do you obtain Exponential Fourier series coefficients from Trigonometric Fourier series coefficients? 2
5. Find the Fourier Transform of $X(t) = e^{-2t} \cdot u(t)$. 3
6. What is the relationship between Fourier Transform and Laplace Transform? 2
7. Define aliasing. 2
8. Show that $(0.5)^n \cdot u(n)$ is an energy signal. 3
9. Find DTFT of $(0.3)^n \cdot u(n)$. 3
10. What is Region of convergence with respect to Z-Transform? 2

PART – B (50 Marks)

11. (a) With the help of an example, explain Time shifting, Time scaling & Time inversion. 6
- (b) Check whether $\sin(t)$ is an energy signal or power signal. 4
12. Find the cosine & trigonometric Fourier series for the signal $x(t)$ shown in figure and sketch its magnitude, phase spectra. 10



13. (a) Explain any three properties of Fourier Transform with suitable examples. 5
- (b) Find the Inverse Laplace Transform of $X(S) = \frac{(2S + 3)}{S(S^2 + 2S + 5)}$. 5
14. State and prove Sampling theorem for band limited signals. 10
15. (a) Determine whether $x(n) = n \cdot u(n)$ is an energy signal or power signal. 5
- (b) Write about Linear & Time-invariant systems. 5
16. (a) Find the Z – Transform of $x(n) = n^2 \cdot u(n)$. 5
- (b) Find the Inverse Z – Transform of $X(Z) = \frac{Z}{2Z^2 - 3Z + 1}$, $|Z| > 1$, by power series method. 5
17. Solve the given difference equation $y(n) - \frac{5}{6}y(n-1) + \frac{1}{6}y(n-2) = 5x(n-1) - x(n-2)$ for the initial conditions $y(-1) = 2$ & $y(-2) = 0$ where $x(n) = u(n)$. 10

FACULTY OF ENGINEERING

B.E IV-Semester (CBCS)(Civil/ECE/A.E.) (Suppl.) Examination,

Dec. 2019 / Jan. 2020

Subject: Environmental Sciences

Time: 3 Hours

Max Marks: 70

Note: Answer all questions from Part-A & any Five questions from Part-B

PART – A (20 Marks)

1. State the need and importance of Environmental studies to the public.
2. With neat sketch, explain the concept of food web with an example.
3. Enlist the bio-geographical classification of India.
4. Discuss the salient features of Wild life act.
5. What are the various impacts of climate change on environment?
6. State the causes and effects of water logging.
7. What is meant by desertification?
8. Enumerate the control measures of noise pollution.
9. Define the term disaster and types of disasters.
10. What is meant by Eutrophication?

PART – B (50 Marks)

11. a) What are the effects of land degradation and soil erosion? Explain.
b) Explain the problems encountered by fertilizers and pesticides.
12. a) Define Ecological Pyramid. Give the detailed classification of the same.
b) Explain the structure and functions of streams and differentiate it with Lake Ecosystem.
13. a) What are the types of Biodiversity conservation? Explain in detail.
b) Write a detailed note on Threats to Biodiversity.
14. a) State the causes, effects and control measures of thermal pollution.
b) Discuss the factors governing the enforcement of environmental legislation.
15. a) Write a detailed note on Global warming and its consequences.
b) Discuss in detail about the impact of disaster on infrastructure and its development.
16. a) Explain in brief the need for awareness on environmental sciences.
b) Give the causes and control measures of soil pollution.
17. Write a detailed note on the following:
 - a) Effects of Modern agriculture
 - b) Conservation of Biodiversity

FACULTY OF ENGINEERING

BE (CBCS) (EEE) IV-Semester Examination, December 2019 / January 2020

Subject: Electrical Machines - I

Time: 3 Hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE questions from Part-B.**Part-A (10×2=20 Marks)**

- 1 Describe the energy balance equations for motor and generator action.
- 2 Define field energy and co-energy.
- 3 Compare lap and wave windings in at least 6 aspects
- 4 Explain the function of inter poles in a dc machine.
- 5 What would happen if the field circuit resistance is more than critical resistance?
- 6 List the applications of dc shunt generators.
- 7 Explain the significance of back emf in a dc motor operation.
- 8 DC series motor should never be started without mechanical load, explain.
- 9 List the various losses in a dc machine.
- 10 Efficiency computed from Swinburne's test is always more than actual efficiency. Justify.

Part-B (5×10=50 Marks)

- 11 a) Derive the expression for electromagnetic torque produced in a doubly excited system. [5]
 - b) The stator and rotor coils of a doubly excited electromechanical device have self and mutual inductances of $L_{11} = 2.4\text{H}$, $L_{22} = 2\text{H}$, $L_{12}=L_{21}=\sqrt{2}\cos\theta$ H where θ is the angle between the two coil axes. Derive the expression for torque when the coils are connected in series and carry the current $i = 10\sqrt{2}\sin\omega t$. [5]
- 12 a) From Fundamental principles derive the emf equation of d.c generator. [5]
 - b) A 4-pole , 80 kW , 200 V, Lap connected dc machine has 256 conductors. Find the number of turns required on each interpole to neutralize cross magnetizing effect. The interpolar air gap is 1.2 cm and the interpolar flux density is 0.3 Wb/m^2 . Neglect leakage flux. [5]
- 13 a) Explain magnetization and load characteristics of dc series generator. [5]
 - b) A short shunt compound generator delivers a load current of 30 A at 220 V and has an armature, series and shunt field resistances of 0.02 , 0.05 and 200 respectively. Calculate the armature current and induced emf. Brush contact drop is 1 V per brush. [5]
- 14 a) Explain the methods of speed control of d.c shunt motor. [5]
 - b) Illustrate the characteristics of dc series motor. [5]

- 15 Hopkinson's test on two similar d.c shunt machines gave the following test data: Line voltage 230 V; Line Current, excluding both the field currents 40 A; motor armature current 350 A; Field currents 5 A and 4.2 A; armature resistance of each machine 0.2 . Estimate the efficiency of both machines. [10]
- 16 a) Show that for large amounts of energy conversion, magnetic field is preferred as a medium rather than electric field. [5]
b) Explain the effects of armature mmf on main field mmf distribution in a dc machine with neat illustrations and methods to compensate. [5]
- 17 a) Explain the construction of 3-point starter with neat diagram. [5]
b) A 60 kW, 250 V shunt motor takes 16 A when running light at 1440 rpm. The resistance of armature and field are 0.2 and 125 respectively. Estimate the efficiency of motor when taking 152 A. [5]

FACULTY OF ENGINEERING**B.E IV-Semester (Inst.) (CBCS) (Suppl.) Examination, Dec. 2019 / Jan. 2020****Subject : Signal and Systems****Time : 3 Hours****Max. Marks : 70***Note : Answer all questions from Part-A & Any five question from Part-B***Part-A (20 MARKS)**

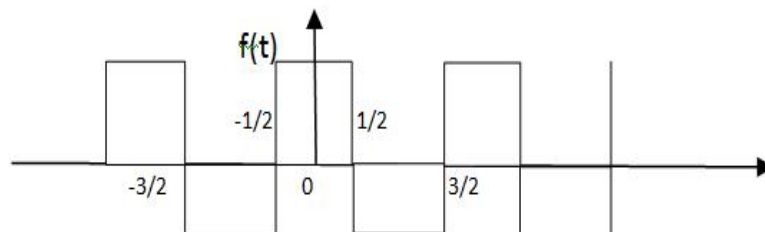
1. Determine whether the following systems in Linear or Non-Linear 2

$$\frac{d^2y(t)}{dt^2} + 2y(t)\frac{dy(t)}{dt} + 3ty(t) = x(t)$$
2. Determine power of the signal $x(t) = 12\cos\left(20t + \frac{f}{2}\right) + 16\sin\left(30t + \frac{f}{2}\right)$ 2
- 3 Prove that signals $\sin(n\check{S}_0t)$ and $\sin(m\check{S}_0t)$ are mutually orthogonal 2
4. Give necessary and sufficient condition for existence for Fourier series 2
5. Prove Time Shifting Property of Fourier Transform 2
6. Determine the Fourier Transform of $x(t) = e^{-3t}u(t)$ 2
7. Define Laplace Transform. 2
8. Find Laplace transform of signal $x(t) = u(-t)$ 2
9. Find Z-transform of $x(n) = 3\left(\frac{5}{7}\right)^n.u(n)$ 2
10. Define Zero Order Hold. 2

Part-B

11. a) Explain classification of signals with examples. 5
 b) Find Even and odd component of the following signal. 5

$$x(n) = \{-3, 1, 2, -4, 2\}$$
12. Determine the Trigonometric Fourier Series expansion of the following signal 10



13. a) Prove the Time domain Differentiation property of Fourier Transform. 5
 b) Find Fourier transform of a sigum function given as 5

$$\text{sgn}(t) = \begin{cases} 1, t > 0 \\ -1, t < 0 \end{cases}$$

-2-

14. a) Find the initial value of the following function using initial value theorem of Laplace Transform $X(s) = \frac{(s+4)}{(s^2+3s+5)}$ 5
- b) Determine the Inverse Laplace Transform of $X(s) = \frac{(s+3)}{(s^2+6s+8)}$ 5
15. a) Find the Z-transform of and ROC of the following function $x(n) = (1+2^n+3^n)u(n)$ 4
- b) Find the causal signal $x(n)$ if its Z-transform is given as $X(z) = \frac{z^{-1}}{3-4z^{-1}+z^{-2}}$; ROC: $|z| > 1$ 6
16. a) Consider a stable LTI system characterized by the differential equation $\frac{d^2y(t)}{dt^2} + 6\frac{dy(t)}{dt} + 8y(t) = \frac{dx(t)}{dt} + x(t)$. Find its transfer function. 4
- b) Using long division method find the Inverse Z-transform of $X(z) = \frac{z^2+2z}{z^3-3z^2+4z+1}$; ROC $|z| > 1$ 6
17. Write Short notes on: 10
- a) Sampling Theorem
- b) Parseval's Theorem.

FACULTY OF ENGINEERING

B.E. (M / P) IV-Semester (CBCS) (Suppl.) Examination, Dec. 2019 / Jan. 2020

Subject : Design of Machine Elements**Time : 3 Hours****Max. Marks: 70***Note: Answer all questions from Part-A and answer any five questions from Part-B.***PART – A (20 Marks)**

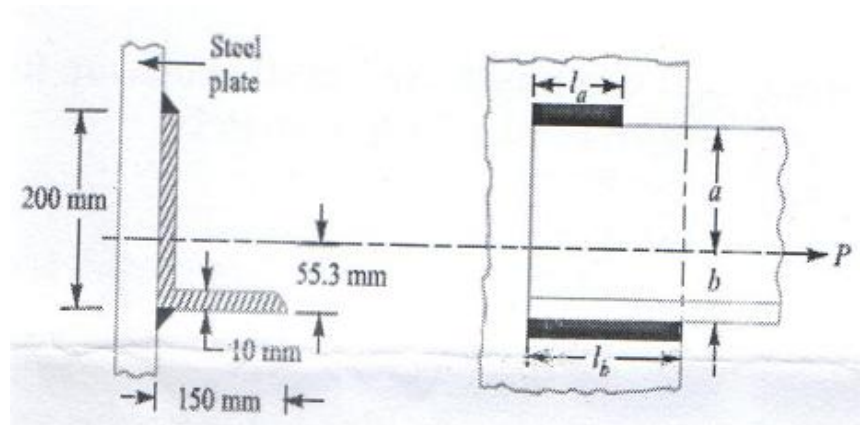
- 1 State the General Procedure in Machine Design.
- 2 Illustrate how the Stress Concentration in a component can be reduced.
- 3 What type of stresses are subjected in Shafts?
- 4 Sketch the forces acting on a Sunk Key.
- 5 Discuss the function of a Caulking and Fullering with neat sketches.
- 6 Discuss the procedure for the design of eccentric loaded welded joint with neat sketches.
- 7 Define the the 'Notch Sensitivity'.
- 8 Write Soderberg's equation and state its application to different types of loading.
- 9 Sketch, the construction of roller chain.
- 10 Define the following terms:
(a) Pitch (b) Lead (c) Nominal diameter (d) core diameter

PART – B (50 Marks)

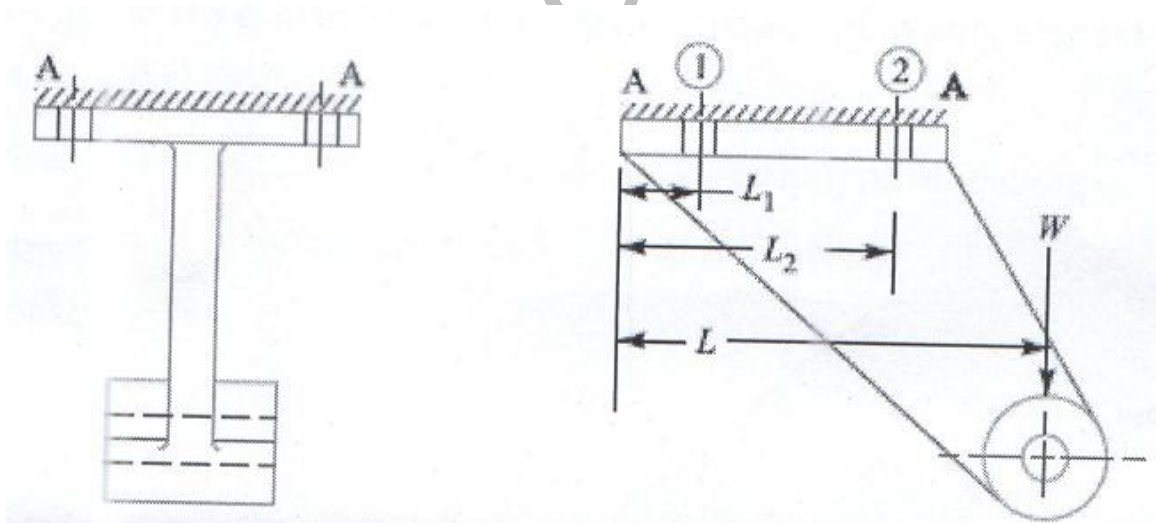
- 11 A hollow shaft of 40mm outer diameter and 25mm inner diameter is subjected to a twisting moment of 120N-m, simultaneously; it is subjected to an axial thrust of 10kN and a bending moment of 80N-m. Calculate the maximum compressive and shear stresses.
- 12 Find the diameter of a solid steel shaft to transmit 20kW at 200 r.p.m. The ultimate shear stress for the steel may be taken as 360MPa and a factor of safety as 8. If a hollow shaft is to be used in place of the solid shaft, find the inside and outside diameter when the ratio of inside to outside diameters is 0.5.
- 13 Design a sleeve and cotter joint to resist to tensile load of 60kN. All parts of the joint are made of the same material with the following allowable stresses:
 $\sigma_1 = 60\text{MPa}$; $\tau = 70\text{MPa}$; and $\sigma_c = 125\text{MPa}$.
- 14 A double riveted lap joint with zig-zag riveting is to be designed for 13mm thick plates Assume $\sigma_1 = 80\text{MPa}$; $\tau = 60\text{MPa}$; $\sigma_c = 120\text{MPa}$ State how the joint will fail and find the efficiency of the joint.

..2..

- 15 A 200 x 150 x 10 mm angle is to be welded to a steel plate by fillet welds as shown in figure. If the angle is subjected to a static load of 200 kN, find the length of weld at the top and bottom. The allowable shear stress for static loading may be taken as 75MPa.



- 16 A bracket, as shown in figure, supports a load of 30kN. Determine the size of bolts, if the maximum allowable tensile stress in the bolt material is 60MPa. The distance are $L_1 = 80$ mm, $L_2 = 250$ mm and $L = 500$ mm



- 17 A mild steel shaft of 50 mm diameter is subjected to a bending moment of 2000N-m and a torque T . If the yield point of the steel in tension is 200MPa, find the maximum value of this torque without causing yielding of the shaft according to
- the maximum principal stress;
 - the maximum shear stress; and
 - the maximum distortion strain energy theory of yielding

FACULTY OF ENGINEERING**B.E. (CSE) IV – Semester (CBCS)(Supply.) Examination, Dec. 2019 / Jan. 2020****Subject: Microprocessors & Interfacing****Time: 3 hours****Max. Marks: 70****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (20 Marks)**

1. List the 8085 addressing modes with example. 2
2. Describe the INR and INX instructions. 2
3. What is DMA? 2
4. Write any three differences between memory mapped I/O and peripheral I/O. 2
5. What are the different key bounding techniques in 8279? 2
6. Write the differences between 8253 and 8254. 2
7. What are the general purposes registers in 8086? 2
8. Write about interrupts of 8086? 2
9. Define 'MACRO' and give examples. 2
10. Write about (i) DB (ii) SEGMENT directives. 2

PART – B (50 Marks)

11. Draw and explain the 8085 microprocessor architecture. 10
12. (a) Draw and explain timing diagram for IN instruction. 5
(b) Briefly explain the Programmable Interrupt Controller (8259A). 5
13. With a neat diagram explain 8279A. 10
14. Explain about various instructions of 8086 microprocessors. 10
15. Explain 8086 microprocessor pin diagram with minimum and maximum mode. 10
16. (a) Write an assembly language program to find sum of even numbers. 5
(b) Explain modular programming with an example. 5
17. Explain
 - (a) Digital to Analog converters. 5
 - (b) Stacks and subroutines. 5

FACULTY OF ENGINEERING
BE I – Semester (ECE / M / P / AE / I.T.) (Main) (AICTE) Examination,
Dec. 2019 / Jan. 2020

Subject – Indian Constitution

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions from Part-A and any FIVE questions from Part-B.

PART – A (20 Marks)

- | | | |
|----|---|---|
| 1 | What was the composition of Constituent Assembly? | 2 |
| 2 | List the Fundamental Features of Indian Constitution. | 2 |
| 3 | Write the relevance of “Panchayat Raj Institutions”. | 2 |
| 4 | What are “Fundamental Duties “of a Citizen of India? | 2 |
| 5 | What are the Directive Principles, as envisaged in the constitution? | 2 |
| 6 | Which feature of the Indian Constitution deals with Center – State relations? | 2 |
| 7 | What is the importance of Finance Commission of India? | 2 |
| 8 | Why is NITI Ayog necessary? | 2 |
| 9 | What is the necessity of National Human Rights Commission? | 2 |
| 10 | What was the significance of 1909 Act for our constitution? | 2 |

PART – B (50 Marks)

- | | | |
|----|--|----|
| 11 | What is the significance of Constituent Assembly? Why was it set up? List out its composition and important functions. | 10 |
| 12 | In the chronological order, mention the sequence of events which led to 1909 Act, 1919 Act and 1935 act. | 10 |
| 13 | Are Rights and Duties same? What are the Fundamental Rights and Fundamental Duties prescribed in the Constitution? | 10 |
| 14 | What does Directive Principles Indicate? Mention them in detail. | 10 |
| 15 | Write an essay regarding Center – State relations, mentioning key features and how the relations are maintained . | 10 |
| 16 | Why, How and When are elections conducted? Who initiates them? | 10 |
| 17 | Write short notes on :
a) Panchayat Raj Institutions
b) Role of Governor
c) Composition of Council of Ministers, Central Level and
d) National Commission for women. | 10 |

FACULTY OF ENGINEERING

B.E. I – Semester (CE / EE / Inst./CSE) (AICTE) (Main) Examination,

Dec. 2019/Jan. 2020

Subject: Essence of Indian Traditional Knowledge

Time: 3 Hours

Max.Marks: 70

Note: Answer all questions from Part-A and any five questions from Part-B

PART – A (10x2 = 20 Marks)

- 1 Culture – Explain in brief
- 2 Heritage – Explain
- 3 Write a note on Indian languages
- 4 Jainism – write a short note
- 5 Explain the “Arya Samaj”
- 6 Advaita philosophy – explain in brief
- 7 Explain the “Classical Music”
- 8 Indian handicrafts – explain in brief
- 9 What are the aims of education?
- 10 Science and scientists – explain.

PART – B (5x10 = 50 Marks)

- 11 a) Write an essay on “civilization”.
b) What are the importance of culture in – human literature?
- 12 a) Discuss about the Buddhism.
b) Write a note on literature of South India.
- 13 a) Explain the relationship between Religion and philosophy.
b) Write an essay on Religious Reform Movements in modern India.
- 14 a) Write a note on Dance and Drama.
b) The role of Science and Technology in Indian Architecture. Discuss.
- 15 a) Write an essay on science and scientists of Ancient India.
b) Write about Education System in Modern India.
- 16 a) Write about the general characteristics of culture.
b) The role of Sanskrit Language in Indian Literature – Discuss.
- 17 a) Write about the historical development on Indian Fine Arts.
b) Explain the science and Technology in India and development of science in modern India.