Code No. 3048 / O

FACULTY OF ENGINEERING

B.E. 2/4 (Civil) II-Semester (Old) Examination, Nov. / Dec. 2016

Subject : Electrical Technology (Part-A)

Time : 1 ½ hours **Max. Marks : 38**

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

PART – A

1 A resistance of 10Ω is connected in series with two resistances each of 15Ω arranged in parallel. What resistance must be shunted across this parallel combination so that the total current taken shall be 1.5A with 20 V applied? 2

2 List out the advantages of three phase systems. 2

3 Brief about ideal transformer and draw its phasor diagram. 3

4 Draw the vector diagram for a load transformer when load is inductive. 2

5 Define : luminous efficiency, coefficiency, coefficient of utilization, space to height ratio. 3

6 What is meant by slip in an induction motor? Why must slip be present for motor action? 2

PART – B

7 a) A network of resistance is formed as follows AB = 9Ω ; BC = 1Ω ; CA = 1.5Ω forming a delta and AD = 6Ω ; BD = 4Ω and CD = 3Ω forming a star. Compute the network resistance measured between i) A and B ii) B and C and iii) C and A. 4

b) Obtain the relations for power in a balanced three phase system. 4

8 Obtain the equivalent circuit of a 220/440-V, 50-Hz, 1-phase transformer from the following test data :
O.C. test : 200 V, 0.7 A, 70 W – on L.V. side
S.C. test : 15V, 10A, 85W – on H.V. side
Calculate the secondary voltage when delivering 5 kW at 0.8 p.f. lagging, the primary voltage being 220V. 8

9 a) Explain the steps for calculation of street lightning. 4

b) The power input to the rotor of a 440 V, 50-Hz, 6-pole, 3-¨ induction motor is 70 kW. The rotor electromotive force is observed to make 100 complete alteration per minute. Calculate : i) slip ii) rotor speed iii) rotor copper losses per phase iv) mechanical power developed. 4

10 a) Discuss in detail about star delta method of starting of three phase induction motor. 4

b) A coil consists of a resistance of 100 ohms and an inductance of 200 mH. If an alternating voltage, v, given by v = 200 sin 500t volts is applied across the coil, calculate i) the circuit impedance, ii) the current flowing, iii) the p.d. across the resistance, iv) the p.d. across the inductance and v) the phase angle between voltage and current. 4

11 a) Derive emf equation of a single phase transformer. 5

b) Explain about polar curves. 3

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Code No. 3085/N

FACULTY OF ENGINEERING

B.E. 2/4 (Civil) II - Semester (New) (Suppl.) Examination, November / December 2016

Subject : Electrical Technology

Time : 1½ Hours **Max. Marks: 38**

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

PART – A (14 Marks)

1 What do you understand about Voltage Divider Rule? 2

2 A square coil of 10 cm side and 100 turns is rotated at a uniform speed of 1000 revolutions per minute, about an axis at right angles to a uniform magnetic field of 0.5 Wb/m^2. Calculate the instantaneous value of the induced electromotive force, when the plane of the coil is at right angles to the field. 2

3 Define the regulation and efficiency of a transformer. 2

4 Define: Luminous flux, solid angle and depreciation factor 3

5 Explain the concept of rotating magnetic field theory. 2

6 Draw and explain the torque slip characteristics of an induction motor. 3

Part – B (24 Marks)

7 (a) Prove that average power consumption in pure capacitor is zero when a.c. voltage is applied. 4

(b) Three equal star-connected inductors take 8 kW at a power factor 0.8 when connected across a 460 V, 3-phase, 3-phase, 3-wire supply. Find the circuit constants of the load per phase. 4

8 (a) Draw the circuit diagrams for conducting OC test on a single phase transformer. 4

(b) The e.m.f per turn of a single phase, 6.6kV/440V, 50 Hz transformer is approximately 12V. Calculate the number of turns in the HV and LV windings and the net cross sectional area of the core for a maximum flux density of 1.5T. 4

9 (a) Explain the steps for calculation of street lightning. 4

(b) Describe briefly the construction of the stator and slipring rotor of a three-phase induction motor, explain the action of the motor and why the rotor is provided with slip-rings. 4

10 (a) A 400V, three-phase, 100 Hz, 8-pole induction motor runs at 24.25 rev/s on full load. The rotor resistance and reactance per phase are 0.2 ohms and 2 ohms respectively and the effective rotor- stator turns ratio is 0.80:1. Calculate (a) the synchronous speed, (b) the slip, and (c) the full load torque. 4

(b) Derive the relationship between the line and phase voltages of a three phase Delta connected systems. 4

11 (a) Draw the no load and full load leading power factor vector diagrams of a transformer. 4

(b) A pure inductance of 318 mH is connected in series with a pure resistance of 75 Ω. The circuit is supplied from a 50 Hz sinusoidal source and the voltage across the 75 Ω resistor is found to be 150 V. Calculate the supply voltage. 4

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Code No. 3053 / O

FACULTY OF ENGINEERING

B.E. 2/4 (EE/Inst.) II-Semester (Old) Examination, Nov. / Dec. 2016

Subject : Electronic Engineering - II

Time : 3 hours **Max. Marks : 75**

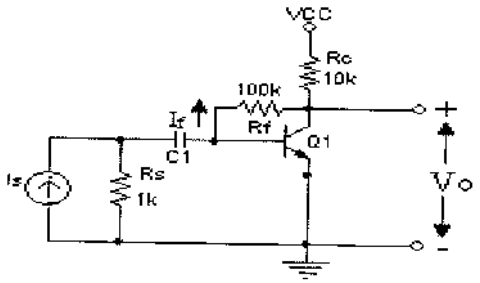
Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1 What are the advantages of negative feedback? 3
2 Define Barkhausen's criterion for oscillation. 2
3 An amplifier has mid band gain 1500 and bandwidth 4 MHz. With feedback midband gain reduces to 150. Determine value of feedback factor and bandwidth. 3
4 Determine value of feedback factor and bandwidth . Give advantages and disadvantages of positive feedback. 3
5 Draw a low-pass RC circuit and plot output waveform for a step input given that RC<<T and RC>>T. 3
6 Define De-sensitivity. 2
7 What are drift compensation techniques? 2
8 Define Tilt. 2
9 Define conversion efficiency in a power amplifier. 2
10 Define CMRR. Give its output expression with respect to differential amplifier. 3

PART – B (50 Marks)

11 Identify the topology for the transistor feedback amplifier stage shown, where h_{fe} = 100, h_{je} = 1K, while h_{re}, h_{oe} are negligible. 10
Find out the following parameters



a) R_M, R_{Mf}, A_{vf}
b) R_i, R_{if}, R_o, R_{of}, R'_o, R'_{of}.

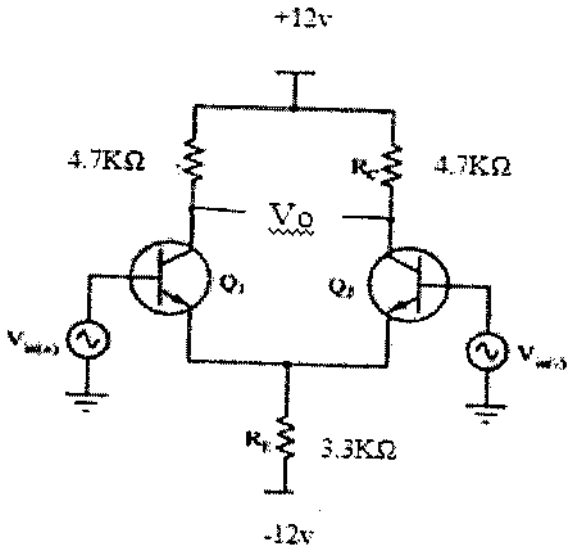
12 Explain and derive the expression for frequency of oscillation and condition for sustained oscillations for the RC phase shift oscillator. 10

13 a) An amplifier has a voltage gain of 1000. With the negative feedback, the voltage gain reduces to 10. Calculate the fraction of the output that is feedback to the input. 5
b) A Hartley oscillator has L_1 = 100μH, L_2 = 100 μH and C = 1pf. Calculate the frequency of oscillation for the Hartley oscillator. 5

..2

14 a) What are the problems of D.C. amplifiers? 3

b) Calculate the operating point values for the circuit shown in fig. 7



15 a) Show that Push-pull amplifier eliminates even harmonic distortion in class A power amplifier. 5

b) Draw transformer coupled class A power amplifier and show that efficiency is 50%. 5

16 a) Why clamping circuit is called d.c. restorer? 4

b) Explain the positive voltage clamping circuit. Give application of clamping circuit. 6

17 Write a short notes on any TWO : 10

i) Cross over distortion
ii) Clampers circuits
iii) High pass circuits

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Code No. 3090/N

FACULTY OF ENGINEERING

B.E2/4 (EEE/Inst.) II – Semester (New) (Suppl.) Examination, Nov./Dec. 2016

Subject: Electronic Engineering-II

Time: 3 Hours **Max.Marks: 75**

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

PART –A (25 Marks)

1 The input and output impedances of an amplifier are 1KΩ and 5KΩ respectively, Gain=100, feedback ratio =0.04. Calculate the input and output impedances of a current shunt feedback amplifier. (3)

2 What is frequency stability of an oscillator? (2)

3 Differentiate between direct coupled and RC coupled amplifiers. (2)

4 Draw Low pass RC circuit and derive its output expression? (3)

5 Classify the different types of power amplifiers based on biasing condition. (3)

6 State and explain the Barkhausen's criterion for sustained oscillations. (2)

7 What are the differences between large and small signal amplifiers? (2)

8 What do you mean by local feedback and global feedback? (2)

9 Draw the circuit and waveforms of a double biased Clipper for a sine wave input. (3)

10 Explain the feedback concept and types of feedback. (3)

PART – B (50 Marks)

11 (a) Draw the circuit of a RC coupled amplifier. Draw its gain vs frequency characteristics and indicate cutoff frequencies and band width. (6)

(b) The three amplifier stages are cascaded to provide an overall gain of 10000. The first two stages have a gain of 40 dB and 26 dB .Determine the gain of the last stage in numerical values as well as in terms of dB. (4)

12 (a) Draw the Current shunt feedback amplifier block diagram and derive for A_{If} , R_{if} ,and R_{of},. (5)

(b) Compare different configurations of feedback amplifiers in terms of different parameters. (5)

13 Draw and explain RC phase shift oscillator and derive its operating frequency. (10)

14 (a) Draw the circuit of Complementary Symmetry Power Amplifier and explain its working. (6)

(b) Compare different types of power amplifiers in terms of conduction angle, efficiency, distortion and power dissipation. (4)

15 (a) Draw and explain the RC high pass circuit response for a square wave input. (5)

(b) What is a Clamper? Explain a positive peak clamper circuit. (5)

16 (a) Draw and explain cascode amplifier. (5)

(b) Derive the %Tilt for a High pass circuit? (5)

17 Write short notes on the following. (10)

(a) Harmonic distortion in amplifiers

(b) Crystal Oscillator

(c) Coupling methods in amplifiers

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Code No. 3063 / O

FACULTY OF ENGINEERING

B.E. 2/4 (ECE) II-Semester (Old) Examination, Nov. / Dec. 2016

Subject : Pulse, Digital and Switching Circuits

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 Sketch the pulse input response of a RC differentiator. 3
2 State and prove clamping circuit theorem. 2
3 What is hystersis in a Schmitt trigger circuit? 2
4 Explain how a diode can be used as a switch. 2
5 State De Morgan's law. 2
6 Realize a half adder using NAND gates. 3
7 Convert 'D' flip-flop to 'JK' flip-flop. 3
8 Realize a hazard free logic network for the switching function f[x,y,z] =Σm= [0,2,4,5]? 3
9 Define state diagram and state table. 2
10 Design a 3 bit binary to gray code convertor. 3

PART – B (50 Marks)

11 a) Why a low pass RC circuit is called an integrator? 3
b) A 1KHz symmetrical square wave of ± 10v is applied to a high pass RC circuit having 1ms time constant, calculate and plot the output. 7

12 a) Design an astable-multivibrator to generate a square wave of 2KHz frequency with a duty cycle of 35%. Draw the circuit diagram with all the wave forms? 7
b) Write the expressions for the period of oscillation of an astable multivibrator when it is used as
i) Square wave generator
ii) Voltage to frequency converter 3

13 Simplify the following expression using Quine Mccluskey tabulation method. 10
$f(w,x,y,z) = \Sigma_m (0,1,2,3,4,6,7,8,9,11,15) + \Sigma_\Phi (10,13)$.

14 Simplify the following switching expression. 10
a) f(w,x,y,z) = (w+x+y+z) (x+y+z) (y+z)(z).
b) $f(w,x,y,z) = \overline{w}x + wx + \overline{x}yz + \overline{x}y + xyz + x$
c) $f(w,x,y,z) = (\overline{w} + y + z)\cdot(\overline{w} + \overline{x} + y)\cdot(w + \overline{x} + \overline{y})$

15 Design a mod-10 synchronous counter using JK flip-flops. Draw the output waveform. 10

16 Design sequence detector which can detect a binary sequence "1101" using JK flip-flops. 10

17 Write a short notes on any TWO : 10
a) Moore and Mealy FSM
b) 5 variable K-map
c) BCD to 7 segment code converter

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Code No. 3100 / N

FACULTY OF ENGINEERING

B.E. 2/4 (ECE) II - Semester (New) (Suppl.) Examination, November / December 2016

Subject : Switching Theory and Logic Design

Time : 3 Hours **Max. Marks: 75**

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

PART – A (25 Marks)

1 Convert the following decimal numbers into their binary equivalents $(79.515)_{10}$ And $(66.38)_{10}$. (2)

2 What is an un-weighted code? Represent the decimal numbers 0 to 15 using Gray codes. (3)

3 Realize an Exclusive NOR gate using minimum number of NOR gates only. (2)

4 Realize g – ab + cd using NOR gates only. (3)

5 Design a 4-bit even parity checker circuit. (3)

6 What is significance of priority encoder? (2)

7 Design a 1-bit memory cell using NAND gates? (3)

8 List out the characteristics of flip-flop. Explain any two. (2)

9 What is Lock-out condition in Counters? How to avoid it? (3)

10 Define flip-flop Register and Shift-Register? (2)

PART – B (50 Marks)

11 Simplify the following three variable Boolean expressions using Boolean algebra and draw using basic logic gates.

(a) $f(a, b, c) = \Sigma m(1, 3, 5, 7)$ (5)

(b) $g(x, y,) = \pi M (0, 1, 3, 4, 7)$ (5)

12 (a) Using K-map obtain the minimal SOP expression for the given switching function and implement it using AND-OR logic.

$f(A, B, C, D, E) = \Sigma m (0, 1, 2, 3, 16, 17, 18, 19)$ (5)

(b) Simplify the given expression using Quine-McCluckey method. (5)

$f(w,x, y,z) = \Sigma m (2, 4, 5, 9, 12, 13)$

13 (a) Design a full adder and also implement it using multiplexer. (5)

(b) Design a 3 to 8 decoder circuit using 2 to 4 decoder circuits. (5)

14 (a) With a neat diagram explain operation of SR flip-flop and derive its truth table, excitation table and characteristic equation. (5)

(b) Convert a D flip-flop into T flip-flop using standard procedure. (5)

15 (a) Design a 3-bit synchronous up-counter using D flip-flop. (5)

(b) Design a 3-bit bidirectional shift register using JK flip-flops having right and left data inputs and Mode control M such that M=0 left shift, M=1 right shift. (5)

16 (a) Design and implement 2-bit comparator circuit. (5)

(b) Design a BCD to Excess 3 code converter. (5)

17 Write short notes on the following:

(a) Combinational circuits Vs Sequential circuits (3)

(b) Hazards and Hazard free realizations (4)

(c) Race around condition and elimination (3)

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Code No. 3064 / O

FACULTY OF ENGINEERING

B.E. 2/4 (M/P/CSE) II-Semester (Old) Examination, Nov. / Dec. 2016

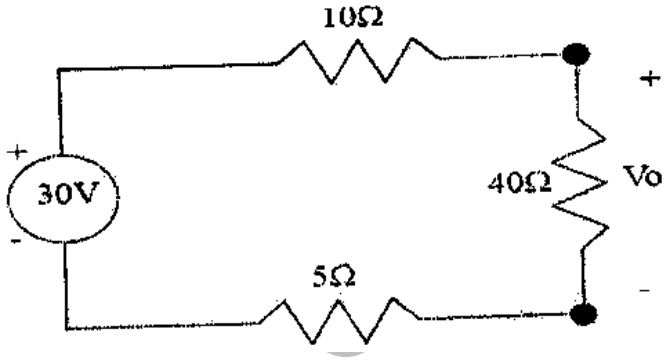
Subject : Electrical Circuits and Machines

Time : 3 hours **Max. Marks : 75**

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

PART – A (25 Marks)

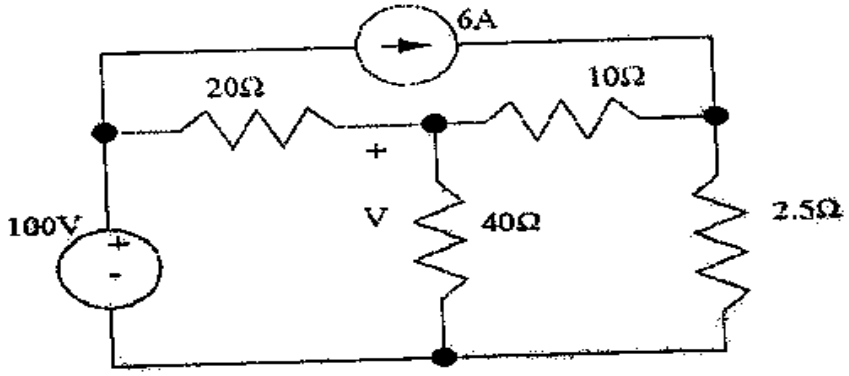
1 Determine Vo for the circuit shown below. 3



2 What do you understand by mutual inductance? 2
3 Define regulation and efficiency of transformer. 3
4 Give the advantage of 3 – phase supply system over 1 – phase system. 2
5 Explain the action of commutator in DC machines. 2
6 Draw torque Vs current and speed Vs current characteristics of DC shunt motor. 3
7 Mention the application of capacitor start motor. 2
8 Why 1 – phase induction motors are not self starting? 3
9 What will happen if a 3 – phase induction motor runs at synchronous speed? 2
10 Define frequency of rotor currents of 3 – phase induction motor and what is its value at standstill. 3

PART – B (50 Marks)

11 a) Determine V for the circuit shown below. 6



b) State and explain Kirchhoff's laws. 4

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12 a) The maximum efficiency of a 300 KVA, 3300/440 V, 50 Hz, 1 – phase transformer is 98.5% and occurs at 3/4 full load upf, if the impedance is 0.06Ω referred to the 400 V side, calculate the regulation at full load and 0.75 pf lagging. 5

b) Explain OC and SC tests of a 1 – phase transformer. 5

13 a) The resistance of the field circuit of a shunt excited D.C. generator is 200Ω. When the output of the generator is 100 KW, the terminal voltage is 420 V and the generated emf 490 V. Calculate i) the armature resistance, ii) the value of generated emf when the output is 50 KW, if the terminal voltage is 480 V. 5

b) Explain the 3 point starter to start the D.C. motor with the help of neat schematic diagram. 5

14 a) Explain slip torque characteristics of an 3 – phase induction motor. 5

b) A 25 HP, 400 V, 50 Hz, 6 – pole, 3 – phase induction motor runs at 960 rpm on full load. The stator loss is 350 W and full load efficiency is 89%, Calculate full load slip and rotor cupper losses. 5

15 a) Explain constructional details and principle operation of BLDC motor. 5

b) Explain the principle operation of capacitor run motor with neat schematic diagram and mention its applications. 5

16 a) Explain e – phase power measurement by using two wattmeter method. 5

b) A balanced 3-phase star connected load of 100 kW, line voltage and line current are 11 kV and 100 A respectively. Find the circuit constants per phase for lagging pf load. 5

17 Write a short notes on the following :

a) Dot convention

b) Armature reaction in DC machines

c) Energy stored in capacitor 3+4+3

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Code No. 3103 / N

FACULTY OF ENGINEERING

B.E. 2/4 (M/P/CSE) II-Semester (New)(Suppl.) Examination, November/December 2016

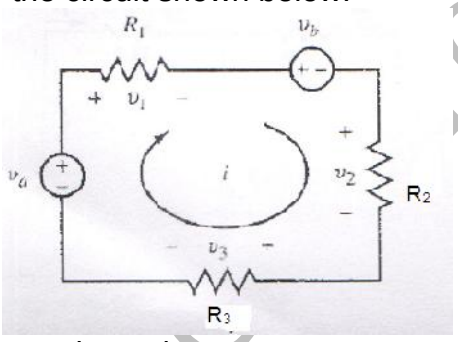
Subject : Electrical Circuits and Machines

Time : 3 Hours **Max. Marks: 75**

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

PART – A (25 Marks)

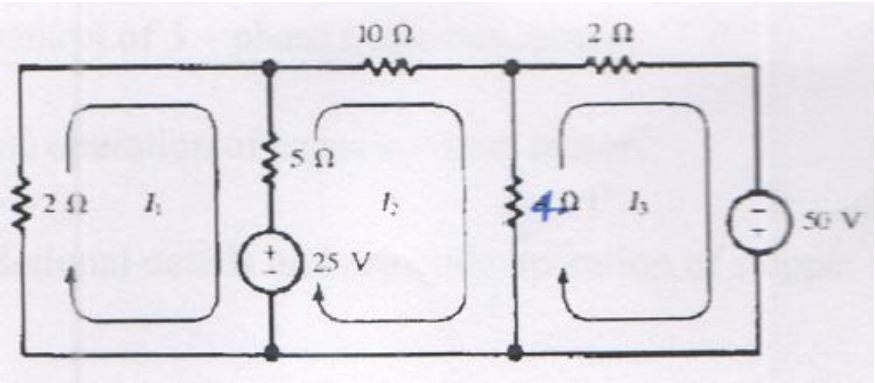
1 Write the KVL equation for the circuit shown below: (3)



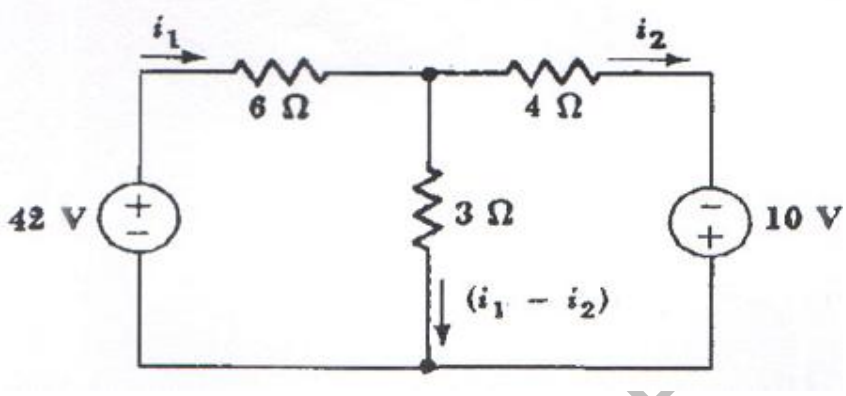
2 Write expressions for active and reactive power. (2)
3 What do you understand by balanced 3 – phase circuits? (2)
4 Explain the no load operation of 1 – phase transformer. (3)
5 What are the applications of DC shunt and series motor? (3)
6 What are the various losses occur in DC machines? (2)
7 Compare 3-phase squirrel cage and slip ring induction motors. (2)
8 Explain how rotating magnetic field is produced in 3-phase induction motor. (3)
9 What are the advantages and disadvantages of 3-phase induction motors over 1-phase induction motors. (3)
10 How BLDC motor defers from conventional DC motor. (2)

PART – B (50 Marks)

11 (a) Solve the circuit show below and evaluate I_1, I_2 and I_3. (5)



(b) Evaluate current flow in 3 Ω resistance by using thevenin's theorem. (5)



12 (a) Derive the expression for energy stored in the inductor. (5)

(b) Explain the following in brief: (5)

(i) Mutual inductance

(ii) Dot convention

13 (a) Explain two-wattmeter method of 3-phase power measurement. (5)

(b) Three similar coils each having resistance of 10 Ω and resistance 8 Ω are connected in star across a 400V, 3-phase supply. Determine the line current, power and p.f. (5)

14 (a) A shunt generator delivers 60 kW at 250V and runs an 500 rpm. The armature and field resistances are 0.025 Ω and 125 Ω respectively. Calculate the speed of the machine running as a shunt motor and taking 60 kW input at 250V. Allow 1V per brush for contact drop. (5)

(b) Derive the emf equation of a DC generator from basics. (5)

15 (a) Explain the operating characteristics of DC series motors. (5)

(b) A lap wound 750 rpm shunt motor has an armature resistance of 0.4 Ω and shunt field resistance of 200 Ω respectively. The armature has 120 coils each of 3 turn each. The flux per pole is 0.03 Wb. If the load resistance is 10 Ω, determine the terminal voltage. (5)

16 (a) Explain constructional details and principle of operation of 3-phase induction motor. (5)

(b) Explain speed control of 3-phase induction motor. (5)

17 (a) Explain principle operation of capacitor start motor. (5)

(b) Explain constructional details and principle of operation of stepper motor. (5)

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Code No. 3071 / O

FACULTY OF ENGINEERING

B.E. 2/4 (AE) II-Semester (Old) Examination, Nov. / Dec. 2016

Subject : Automotive Petrol Engines

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 volumetric efficiency, and explain how it can be improved.
2 Explain the significance of firing order.
3 Explain why a carburettor is required in SI engines.
4 What is petrol injection?
5 Draw a neat sketch of battery ignition system.
6 What is the main function of a spark plug?
7 Name the different types of combustion chambers used in SI engines.
8 What is the need of cooling an IC engine?
9 What are the important qualities of lubricating oil?
10 What do you mean by viscosity index?

PART – B (50 Marks)

11 Derive an expression for thermal efficiency and mean effective pressure of an otto cycle with suitable explanation and represent ottocycle on P.V. and T.S. diagrams.

12 a) What are the main requirements of an automotive carburetor and explain how idling can be done?
b) With a neat sketch explain working principle of S.U carburettor.

13 a) With a neat sketch explain working principle of vacuum advance mechanism.
b) What is hot and cold spark plugs? Explain with suitable sketches.

14 What are the stages of combustion in SI engines? And explain the factors which influence the flame speed.

15 a) What are the objectives of combustion chamber design.
b) What are the various types of combustion chambers used in SI engines? Explain them briefly.

16 a) Why fins and baffles are required in an air cooled engine? Explain with Suitable sketches.
b) Explain the working principle of pressure cooling system.

17 a) What are the various components to be lubricated in an engine and explain how it is accomplished?
b) Explain and compare wet sump and dry sump lubrication systems.

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Code No. 3109 / N

FACULTY OF ENGINEERING

B.E. 2/4 (A.E.) II - Semester (New) (Suppl.) Examination, November / December 2016

Subject : Automotive Petrol Engines

Time : 3 Hours **Max. Marks: 75**

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

PART – A (25 Marks)

1 What is the significance of firing order?
2 Define the following terms:
(a) Volumetric efficiency (b) Compression ratio
3 Explain the working principle of carburetion.
4 Explain why a rich mixture is required for starting of an I.C. engine.
5 What are the merits and demerits of battery coil ignition system?
6 Draw a neat sketch of spark plug and indicate each component name.
7 Explain how to avoid Knocking in SI engines.
8 If lubricating oil is not used in IC engine then how it effects the engine performance.
9 What are different types of cooling system used in IC engines?
10 What are the important Qualities of lubricating oil?

PART – B (50 Marks)

11 (a) Derive an expression for thermal efficiency of otto cycle. (5)
(b) In an engine working on otto cycle the temperature at the beginning and end of compression are $50^{o}C$ and $373^{o}C$. Find the compression ratio and air standard efficiency of engine. (5)

12 Draw a neat sketch of solex carburetor and explain its working principle. (10)

13 (a) With a neat sketch explain the working principle of centrifugal advance mechanism. (6)
(b) What are the merits and demerits of petrol injection system? (4)

14 (a) Explain the various factors that influence the flame speed. (5)
(b) Explain the phenomena of knock in SI engine. (5)

15 (a) Differentiate between wet sump and dry sump lubricating system. (5)
(b) What are the various cooling systems available? Explain with neat sketches. (5)

16 (a) What are the various types of combustion chambers used in SI engines? Explain them briefly. (5)
(b) What are the factors to be considered while designing a combustion chamber? (5)

17 Write short notes on the following: (10)
(a) Valve timing importance
(b) MPFI
(c) Electronic ignition system

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Code No. 3078 / O

FACULTY OF INFORMATICS

B.E. 2/4 (IT) II-Semester (Old) Examination, Nov. / Dec. 2016

Subject : Computer Organization and Microprocessor

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	Write the equation to measure the performance of a computer.	3
2	Mention the names of the registers that facilities communication with main memory.	2
3	Define the principle of locality of reference.	3
4	What is memory interleaving?	2
5	Name the registers that are modified after the execution of XCHG instruction.	2
6	What are the interrupt pins of 8085?	3
7	Name the instructions used for stack organization in 8085.	2
8	Explain the functions of HOLD and HLDA signals.	3
9	Specify the function of programmable interval timer (8254).	3
10	What is the function of 'Control Word Register'?	2

PART – B (50 Marks)

11	Explain how simultaneous requests from two or more devices can be handled.	10
12	With necessary diagram, show the address translation in virtual memory.	10
13	With suitable examples, explain various addressing modes supported by 8085.	10
14	Explain about the interfacing of 8085 with digital to analog converter.	10
15	Explain about the operation of programmable communication interface.	10
16	Write short notes on the following : a) DMA b) Cache memory organization	5+5
17	Write short notes on the following : a) Modes of operation of 8255 b) Branch instructions of 8085	5+5

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Code No. 3116 / N

FACULTY OF INFORMATICS

B.E. 2/4 (I.T.) II – Semester (New) (Suppl.) Examination, November / December 2016

Subject: Computer Organization & Microprocessors

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	Write about memory hierarchy	3
2	What is the role of DAA instruction and describe with example	2
3	What is the purpose of TLB?	3
4	Write primary features of 8259A	3
5	Discuss working of stacks and subroutines	3
6	Define virtual memory	2
7	List any two data transfer instruction	2
8	Differentiate RISC & CISC	3
9	Explain the following 8085 instructions with example i) ADCC ii) ORI 50H	2
10	List different types of interrupts in 8085	2

PART – B (5x10 = 50 Marks)

11	a) Explain interrupts service routine in detail. b) Write an ALP for 8085 to multiply two 8-bit numbers	4 6
12	Explain the following: a) SRAM, Synchronous and Asynchronous DRAM. b) Describe Bus Arbitration Techniques and explain its types.	 5 5
13	Discuss different types of addressing modes of 8085.	10
14	Write short notes on 8279 (Key board and Display controller).	10
15	Write short notes on 8254 CWR.	10
16	a) Discuss the metrics to measure the performance of memory system. b) Explain in detail DMA controller (8257).	5 5
17	Explain CWR of 8255 (PPI) in both BSR and I/0 mode.	10

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