GE2 Electrical Machines

EE206	AC Machines	2
EE207	DC Machine	1

PART 1-Lessons

E029 Lesson 1 Electric motor drive 1

http://youtu.be/IfJVYgfBWlw

E029 Lesson 2 Electric motor drive 2

http://youtu.be/ZSmWel8QZlU

E029 Lesson 3 Induction motor starting

http://youtu.be/9f3RB0vctNk

Fault finding + Electrical control equipments

G008+G009

G008+G009 Lesson 1 AC Machine+AC motor control.zip

http://youtu.be/fwyx6xSOPIs

http://youtu.be/DJ_huMMsVT4

http://youtu.be/pezBHVInm6M

http://www.filefactory.com/file/c386c73/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip

G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip

http://youtu.be/bwxocSr9ptE

http://youtu.be/ohyGNBontLg

http://youtu.be/adm0lWJYlyE

http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip

Power Transformers

EE305	Power Transformer

G040 + IS73

Page 271 to 284 of http://www.filefactory.com/file/cf9bf8f/n/Video_Lessons.pdf

Power transformer

G040 Lesson 1 Power transformer rating 1.zip

http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip

http://youtu.be/qjWJVQAh_jA

G040 Lesson 1 Power transformer rating 2.zip

http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip

http://youtu.be/JonzO8JD-k4

G040 Lesson 2 Open circuit short circuit test.zip

http://youtu.be/Ru-KlKv40OY

http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip

G040 Lesson 3 Transformer regulation.zip

http://youtu.be/t6IZMwMj-B4

http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip

G040 Lesson 4 Power transformer connection.zip

http://youtu.be/iig8PISDN1I

http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip

G040 Lesson 5 Maximum efficiency.zip

http://youtu.be/Qa7l0eHTWTU

http://www.filefactory.com/file/c39b3e5/n/G040_Lesson_5_Maximum_efficiency.zip

G040 Lesson 6 Transformer parallel operation.zip

http://youtu.be/dkRxoaozrOk

http://youtu.be/Sz5QY727w-8

http://www.filefactory.com/file/c39b415/n/G040_Lesson_6_Transformer_parallel_operation.zip

G040 Lesson 7 Harmonic in transformer.zip

http://youtu.be/_YOlWb3e574

http://www.filefactory.com/file/c39b5b9/n/G040_Lesson_7_Harmonic_in_transformer.zip

G040 Lesson 8 Transformer problem + auto transformer.zip

http://youtu.be/0KCscbCIUjk

http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip

G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

http://youtu.be/d3XHm-wguzQ

http://youtu.be/XwiIkZnKFqQ

http://youtu.be/uOHBk840Bhw

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

G040 Lesson 10 Phase shift transformer.zip

http://youtu.be/7aWhg9DIoWI

http://www.filefactory.com/file/c39b51c/n/G040_Lesson_10_Phase_shift_transformer.zip

The links contain the following lessons

G040 Lesson 1 Power transformer rating 1

G040 Lesson 1 Power transformer rating 2

G040 Lesson 2 Open circuit short circuit test

G040 Lesson 3 Transformer regulation

G040 Lesson 4 Power transformer connection

G040 Lesson 5 Maximum efficiency

G040 Lesson 6 Transformer parallel operation

G040 Lesson 7 Harmonic in transformer

G040 Lesson 8 Transformer problem + auto transformer

G040 Lesson 9 Transformer rating cooling connection tap changing

G040 Lesson 10 Phase shift transformer

Induction and synchronous machines & control

G043+G045 Lesson 1 AC Machine Introduction.zip

http://youtu.be/-WIfOPhNDn8

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

G043+G045 Lesson 2 Slip+Equivalent Ckt.zip

http://youtu.be/De79cbk2EOQ

http://youtu.be/gprZTitiOao

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

G043+G045 Lesson 3 Power Transfer.zip

http://youtu.be/pCMcMPBrUEE

http://youtu.be/7tJjDuG5SQc

http://youtu.be/dV9VFsXeFnY

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

G043+G045 Lesson 6 Motor starting and control.zip

http://youtu.be/Utfbzs7Ti6M

http://youtu.be/VnNlesPgeZk

http://youtu.be/AMO70oGS2Fs

http://youtu.be/FQVMCMDSTwo

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

G043+G045 Lesson 7 Synchronous machine introduction.zip

http://youtu.be/KM9TJcr2MBk

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

CLASS LESSONS

Elect Machine-G043+G044+G045.zip

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

Exercise

Do UEENEEG043B+UEENEEG045B Page 157 to 182 of the following link

http://www.filefactory.com/file/c0b7da3/n/Advanced_Diploma_in_Electrical_Engineering_Exercises.zip

AC Machines

EE206	AC Machines

G043+G045+ G143+145+I145

Page 308 to 329 of http://www.filefactory.com/file/cf9bf8f/n/Video_Lessons.pdf

Induction and synchronous machines & control

G043+G045 Lesson 1 AC Machine Introduction.zip

http://youtu.be/-WIfOPhNDn8

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

G043+G045 Lesson 2 Slip+Equivalent Ckt.zip

http://youtu.be/De79cbk2EOQ

http://youtu.be/gprZTitiOao

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

G043+G045 Lesson 3 Power Transfer.zip

http://youtu.be/pCMcMPBrUEE

http://youtu.be/7tJjDuG5SQc

http://youtu.be/dV9VFsXeFnY

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

G043+G045 Lesson 4 Test for equivalent ckt.zip

http://youtu.be/HF4bJ6vWX2c

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

G043+G045 Lesson 5 Equivalent Ckt Problems.zip

http://youtu.be/PyPQsw0L_o0

http://youtu.be/f8VbD_APNfk

http://youtu.be/SROLC5hkoc0

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

G043+G045 Lesson 6 Motor starting and control.zip

http://youtu.be/Utfbzs7Ti6M

http://youtu.be/VnNIesPgeZk

http://youtu.be/AMO70oGS2Fs

http://youtu.be/FQVMCMDSTwo

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

G043+G045 Lesson 7 Synchronous machine introduction.zip

http://youtu.be/KM9TJcr2MBk

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

G043+G045 Lesson 8 Synchronous machine ckt problems.zip

http://youtu.be/ZGsmZfLiPoc

http://youtu.be/bnpYxKtSz1c

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

G043+G045 Lesson 9 Synchronous machine starting.zip

http://youtu.be/p4x03LkgBc8

http://youtu.be/yKmNWaxT2Hk

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

G043+G045 Lesson 10 Single phase motor.zip

http://youtu.be/9OgmEb0tFpE

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

G043+G045 Lesson 11 Factors affecting motor operation.zip

http://youtu.be/sAqyhDlpwwY

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

The links contain the following lessons

G043+G045 Lesson 1 AC Machine Introduction

G043+G045 Lesson 2 Slip+Equivalent Ckt

G043+G045 Lesson 3 Power Transfer

G043+G045 Lesson 4 Test for equivalent ckt

G043+G045 Lesson 5 Equivalent Ckt Problems

G043+G045 Lesson 6 Motor starting and control

G043+G045 Lesson 7 Synchronous machine introduction

G043+G045 Lesson 8 Synchronous machine ckt problems

G043+G045 Lesson 9 Synchronous machine starting

G043+G045 Lesson 10 Single phase motor

G043+G045 Lesson 11 Factors affecting motor operation

DC Machines

EE207	DC Machine

G044+G144+I146

Page 330 to 343 of http://www.filefactory.com/file/cf9bf8f/n/Video_Lessons.pdf

DC Machine and control

G044 Lesson 1 DC Machine Principle.zip

http://youtu.be/-jAtAH_Ny94

http://www.filefactory.com/file/c0b04b3/n/G044_Lesson_1_DC_Machine_Principle.zip

G044 Lesson 2 DC Winding +Armature reaction.zip

http://youtu.be/SYx2SSmMKlE

http://youtu.be/YtTPpipiUYI

http://www.filefactory.com/file/c0b041a/n/G044_Lesson_2_DC_Winding_Armature_reaction.zip

G044 Lesson 3 Factors affecting speed & direction of rotation.zip

http://youtu.be/9-7wsKVrhls

http://youtu.be/O_uo2H5Rflc

http://youtu.be/QaabA5pmB9E

http://www.filefactory.com/file/c0b0438/n/G044_Lesson_3_Factors_affecting_speed_direction_of_rotation.zip

G044_Lesson_4_Torque_speed_relation.zip

http://youtu.be/NsBiqxreBOA

http://www.filefactory.com/file/c0b0472/n/G044_Lesson_4_Torque_speed_relation.zip

G044 Lesson 5 Losses & efficiency of DC machine.zip

http://youtu.be/2sHkClBWiFw

http://youtu.be/hZAjL3oUxMM

http://www.filefactory.com/file/c0b05f4/n/G044_Lesson_5_Losses_efficiency_of_DC_machine.zip

G044 Lesson 6 Machine temperature rise.zip

http://youtu.be/h8PNG21p-p4

http://youtu.be/Cq0V4DR_2wE

http://www.filefactory.com/file/c0b0548/n/G044_Lesson_6_Machine_temperature_rise.zip

G044 Lesson 7 DC motor control.zip

http://youtu.be/XUidfx-qtF0

http://www.filefactory.com/file/c0b056f/n/G044_Lesson_7_DC_motor_control.zip

G044 Lesson 8 Duty cycle+DC motor starter.zip

http://youtu.be/bhQf-hurKMI

http://www.filefactory.com/file/c0b0588/n/G044_Lesson_8_Duty_cycle_DC_motor_starter.zip

G044 Lesson 9 DC motor speed control.zip

http://youtu.be/kRfoWS3ujdE

http://youtu.be/R_0LDkQEAHU

http://www.filefactory.com/file/c0b06b9/n/G044_Lesson_9_DC_motor_speed_control.zip

The links contain the following lessons

G044 Lesson 1 DC Machine Principle

G044 Lesson 2 DC Winding +Armature reaction

G044 Lesson 3 Factors affecting speed & direction of rotation

G044 Lesson 4 Torque speed relation

G044 Lesson 5 Losses & efficiency of DC machine

G044 Lesson 6 Machine temperature rise

G044 Lesson 7 DC motor control

G044 Lesson 8 Duty cycle+DC motor starter

G044 Lesson 9 DC motor speed control

PART 2-References

References

AC Machine

http://www.filefactory.com/file/1y5t9ylqd0dv/G043%2BG045%20Part%201%2B7762AF%20Notes.doc

DC Machine

http://www.filefactory.com/file/2n1b4r4zlpn/G044%2B7762AC1.zip

http://www.filefactory.com/file/2p08ow5pbj5f/G044%2B7762AC2.zip

Transformer

http://www.filefactory.com/file/1mf3xl66xx0n/G040_7762AD_Notes.doc

http://www.filefactory.com/file/y0wm0eo60gx/G040_7762AD_Notes.doc

Machine Control Circuits

http://www.filefactory.com/file/1ccd2bba8nmb/MachineControlCkt1.zip

http://www.filefactory.com/file/1nb0b7qqknfd/MachineControlCkt2.zip

Machine Repair

http://www.filefactory.com/file/m52rk4pumh7/MachineRepair1.zip

http://www.filefactory.com/file/43zijbmp15df/MachineRepair2.zip

http://www.filefactory.com/file/6wnvq8vkay87/MachineRepair3.zip

PART 3-Practicals

Electrical Machine Winding

- **Practical Demonstration Videos (Youtube)**

Coil Winding
http://youtu.be/SQlyjA2w9Rs

Motor Manufacturing
http://youtu.be/uqXfEWscyWk

Motor Winding
http://youtu.be/bFluDsslt98

Removing Motor winding
http://youtu.be/Ps2HBeLvikA

Rewinding the motor
http://youtu.be/iwtYONTQFCk

Three phase Motor Operation
http://youtu.be/mw8i_MLecyY

Transformer Coil Winding
http://youtu.be/u182H2PZvo4

Fitting Motor Winding in motor production factory
http://youtu.be/EoGExBWRUBw

- **Practical Demonstration Videos (Downloadable)**

Three Phase motor operation.mp4 (26.73MB)
http://www.filefactory.com/file/63dp8rzwhimz/n/Three_Phase_motor_operation.mp4

Transformer Coil Winding.mp4 (63.05MB)
http://www.filefactory.com/file/4m6361gl8hl1/n/Transformer_Coil_Winding.mp4

Removing the motor winding.mp4 (54.23MB)
http://www.filefactory.com/file/1syreiox4wgf/n/Removing_the_motor_winding.mp4

Motor Winding.mp4 (15.89MB)
http://www.filefactory.com/file/4pmvtsi17vg9/n/Motor_Winding.mp4

Motor manufacturing.mp4 (34.52MB)
http://www.filefactory.com/file/2cih4cdsnltr/n/Motor_manufacturing.mp4

Fitting the motor winding in motor production factory.mp4 (70.1MB)
http://www.filefactory.com/file/4hsyf1n6wrjz/n/Fitting_the_motor_winding_in_motor_production_factory.mp4

Coil winding manufacturing.mp4 (29.84MB)
http://www.filefactory.com/file/3f0ffbncxzt5/n/Coil_winding_manufacturing.mp4

Circuit Connection Assessment Number_3-1 DC Variable Speed Drive

http://www.filefactory.com/file/1ufyhhdtxvnd/n/Practical_Semester_1_A_pdf

http://www.filefactory.com/file/1tsh6fgnwpf9/n/3_1_xls

http://www.filefactory.com/file/2b8s44t0ad0h/n/3-1_pdf

http://www.filefactory.com/file/6j1bxdkb2ztv/n/3_1_doc

Circuit Connection Assessment Number_4.8 Power Practical-Tr Polarity OCT SCT

TrPolarity_OCT_SCT

http://www.filefactory.com/file/2hidr69inf67/n/4_12_doc

http://www.filefactory.com/file/5s68gn2m8lfr/n/4-12_pdf

http://www.filefactory.com/file/5gcxv439m5in/n/Power_Practical-TrPolarity_OCT_SCT_pdf

Auto_Tr_Test

5.Electrical Machine Drive Magnetics Practicals

Circuit Connection Assessment Number_5-1 Motor winding impedance

http://www.filefactory.com/file/7kppl7048nxn/n/Practical-E029-Motor_winding_impedance_pdf

http://www.filefactory.com/file/3ve1y5o399x/n/5-1_pdf

http://www.filefactory.com/file/6x8fkvqtmx4t/n/5_1_doc

Circuit Connection Assessment Number_5-2 Motor polarity

http://www.filefactory.com/file/6fzs7n702jrh/n/5_2_doc

http://www.filefactory.com/file/3zxgfi55nwlp/n/5-2_pdf

http://www.filefactory.com/file/5mw1ek0239dp/n/Practical-E029-Testing_motor_polarity_pdf

http://www.filefactory.com/file/653f605ed0qn/n/5_2_doc

Circuit Connection Assessment Number_5-4 Three phase motor speed measurement

3_ph_motor_speed_measurement

3_ph_motor_no_load_test

http://www.filefactory.com/file/549t9x5ckv8l/n/5_4_doc

http://www.filefactory.com/file/ft0sxe70zkp/n/5-4_pdf

http://www.filefactory.com/file/66nl1dehi6fv/n/3_ph_motor_speed_measurement_pdf

Circuit Connection Assessment Number_5-8 Power transformer regulation

http://www.filefactory.com/file/1kue47rqpq79/n/5-8_pdf

http://www.filefactory.com/file/2ybeou7gy6ax/n/Practical-G040-Power_Transformer_Percentage_Regulation_pdf

http://www.filefactory.com/file/6bicpfi3tprh/n/5_8_doc

Circuit Connection Assessment Number_5-9 Transformer connection

http://www.filefactory.com/file/116upzqzyrdx/n/5-9_pdf

http://www.filefactory.com/file/1umbdtikfoan/n/5_9_doc

http://www.filefactory.com/file/65wswrf37mnv/n/Practical-G040-Transformer_connection_pdf

Circuit Connection Assessment Number 3-1 DC Variable Speed Drive

http://www.filefactory.com/file/1ufyhhdtxvnd/n/Practical_Semester_1_A_pdf

Variable_speed_drive

http://www.filefactory.com/file/157ijpib50kh/n/3_11_doc

http://www.filefactory.com/file/nxlzi32shtr/n/3-11_pdf

http://www.filefactory.com/file/5hh27aqzb245/n/3_11_xls

AC_DC_Drive

Circuit Connection Assessment Number 3-11 Variable dc drive with rectifier

http://www.filefactory.com/file/1ufyhhdtxvnd/n/Practical_Semester_1_A_pdf

http://www.filefactory.com/file/157ijpib50kh/n/3_11_doc

http://www.filefactory.com/file/nxlzi32shtr/n/3-11_pdf

http://www.filefactory.com/file/5hh27aqzb245/n/3_11_xls

http://www.filefactory.com/file/57jlpsstkrj3/n/DC_Machine_G044_Practicals_pdf

Online Test

G043+G045

G043+G045 MCQ Practice 1

G043+G045 MCQ Practice 2

G044

G044 MCQ Practice 1

G044 MCQ Practice 2

G040

G040 MCQ Practice

Online Test Marking

G043+G045 ---------UENEEG143+145

http://www.filefactory.com/file/3uzk5bpijjzb/n/G043_G045_Online_Test_1_Marking_doc

http://www.filefactory.com/file/5stgiskbar09/n/G043_G045_Online_Test_1_Answer_doc

http://www.filefactory.com/file/7h9o99zngfq1/n/G043_G045_Online_Test_1_Question_pdf

http://www.classroomclipboard.com/503511/Home/Test/2f02528bbe5d47ba8056aaeae1c66972#/InitializeTest.xaml

7TBWXJ5

G043+G045 Test 2---------UENEEG143+145

http://www.filefactory.com/file/63toq5ptr9kd/n/G043_G045_Online_Test_2_Marking_doc

http://www.filefactory.com/file/6niihh0n4wkd/n/G043_G045_Online_Test_2_Question_pdf

http://www.filefactory.com/file/4b61ywdwr11j/n/G043_G045_Online_Test_2_Answer_doc

http://www.filefactory.com/file/4w93zmf461az/n/G043_G045_Online_Test_2_Marking_doc

http://www.classroomclipboard.com/503511/Home/Test/a75a1183d7bb48579d49be08bbfb8453#/InitializeTest.xaml

9GXP

G044 Test 1---------UENEEG144

http://www.filefactory.com/file/2ejf6p7o0j0f/n/G044_Online_Test_1_Answer_doc

http://www.filefactory.com/file/5iyno92bji67/n/G044_Online_Test_1_Question_pdf

http://www.filefactory.com/file/5vfdj48frlcl/n/G044_Online_Test_1_Marking_doc

http://www.classroomclipboard.com/503511/Home/Test/39a2497862a448b1b34e39893dd92183#/InitializeTest.xaml

VH4D

G044 Test 2---------UENEEG144

http://www.filefactory.com/file/2m1tpucl2n7r/n/G044_Online_Test_2_Answer_doc

http://www.filefactory.com/file/2s09suiqef29/n/G044_Online_Test_2_Marking_doc

http://www.filefactory.com/file/4x5u2r2wjopn/n/G044_Online_Test_2_Question_pdf

http://www.classroomclipboard.com/503511/Home/Test/ad64e548135f4b008a74d2a5c6c1c3c9#/InitializeTest.xaml

KTKC

KV6K3G

G040 Test 1---------UETTDRIS 73

http://www.filefactory.com/file/3ve7iz9640yp/n/G040_Online_Test_1_Question_pdf

http://www.filefactory.com/file/45rptyy2854t/n/G040_Online_Test_1_Answer_doc

http://www.filefactory.com/file/7zq1w4qasjn/n/G040_Online_Test_1_Marking_doc

http://www.classroomclipboard.com/503511/Home/Test/b12e17211b8b407b9cac0025aff7462c#/InitializeTest.xaml

67VWMYJ

EE109 Electrical Control Circuits

Tutoring Lessons

Lesson 1 Lesson 2

Test & Assessment

http://www.classroomclipboard.com/503511/Home/Test/618fafbe4aae4b6ab065df53cf9aebbb#/InitializeTest.xaml

Type your name Put the following access code

U8FS3Y

And do the following exercises.

1) Ref 610

Sketch the equivalent circuit and vector diagram of

(a) Synchronous generator (b) Synchronous motor

2) Ref 609

Sketch the equivalent circuit of transformer

3) Ref 608

Describe the losses in transformer

4) Ref 607

What is transformer rating?

5) Ref 606

Write the procedure to detect the fault.

6) Ref 605

Explain the operation principle of three phase induction motor

EE111 Electromagnetism & Basic Electrical Machines

Tutoring Lessons

Lesson 1

Test & Assessment

http://www.filefactory.com/file/7c658zyrj9gx/n/G001_Online_Test_1_Question_pdf

http://www.filefactory.com/file/1h8minstf7ux/n/G001_Online_Test_1_Answer_doc

Do the tests and send the answer sheet in soft copy by e-mail to
iqytechnicalcollege@gmail.com

Password- **iqytechnicalcollege**

Study the notes

Lesson 1

And do the following exercises.

G001 Online Test

Ref137

The flux is equal to

A	ϕ = Fm / Rm	B	ϕ = Fm x Rm
C	ϕ = Rm / Fm	D	ϕ = Fm + Rm
	Answer		

Ref 138

Rm is equal to

A	$l\mu$ / A	B	L/μ A
C	$L\mu$ A	D	μ A/l
	Answer		

Ref139

Flux density is equal to

A	ϕ A	B	A/ ϕ
C	ϕ/A	D	Φ+A
	Answer		

Ref140

The torque produced in electric motor is equal to

A	T = BL r	B	T = Br/ L
C	T = BL/ r	D	T + Br + L
	Answer		

Ref141

A plunger brake electro-magnetic operates at a flux density of 12 tesla. If the CSA of the magnetic circuit is 0.04 sq-m and reluctance is 12000 amp-turn / wb, what current is required to operate the magnet if the coil has 1000 turns.

A	0.288A	B	0.576A
C	1.3A	D	2.8A
	Answer		

Ref142

The induced voltage in conductor moving in magnetic field is

A	E = BLV sinΘ	B	E = BLV cosΘ
C	E = BLV	D	E = BI sinΘ
	Answer		

Ref143

The voltage induced in coil of N turns is

A	V = N ϕ	B	V = NI
C	V = N x d ϕ/ dt	D	V = N^2 ϕ
	Answer		

Ref144

What is the velocity of a conductor 150 mm long and moving at right angle to magnetic field having a flux density of 0.4 tesla? The induced voltage is 4V.

A	6 m/s	B	1.5 m/s
C	12 m/s	D	3.3 m/s
	Answer		

Ref145

The force between two current carrying conductors is

A	$F = 10^{-7} I / d$	B	$F = NI / d$
C	$F = 2 \times 10^{-7} I / d$	D	$F = 4 \Pi 10^{-7} I / d$
	Answer		

Ref146

A transformer has 50 turns on the primary and 600 turns on secondary . If a flux of 0.25 wb is induced to zero in 10 ms, calculate the induced emf in each coil.

A	E1 = 250V, E2 = 3000V	B	E1 = 2500V, E2 = 30000V
C	E1 = 300V, E2 = 25000V	D	E1 = E2 = 3000V
	Answer		

Ref147

If a conductor is being rotated at 2000 RPM in magnetic field and induces 400V . If it is rotated at 1000 RPM.. Find the induced emf.

A	100V	B	200V
C	400V	D	50V
	Answer		

Ref148

A 240 V coil 5000T produces magnetizing force 4000AT/ m . The magnetic circuit is 200 mm long. CSA 500 sq-mm. Find the resistance of the coil.

A	1500Ω	B	3000Ω
C	750Ω	D	150Ω
	Answer		

EE206 AC Machines

Tutoring Lessons

EE206 Part 1 EE206 Part 2 EE206 Part 3

Test & Assessment

http://www.filefactory.com/file/5stgiskbar09/n/G043_G045_Online_Test_1_Answer_doc

http://www.filefactory.com/file/7h9o99zngfq1/n/G043_G045_Online_Test_1_Question_pdf

Do the tests and send the answer sheet in soft copy by e-mail to
iqytechnicalcollege@gmail.com

Password- **iqytechnicalcollege**

Study the fEE206 file notes and do the exercises

G043+G045 Online Test

Ref374

Which is correct formula

A	T= F x r P = 9.55 / NT	B	T= F x r P = NT/ 9.55
C	T= F + r	D	T= F x r

	P = NT/ 9.55		P = 9.55 / N+T
	Answer		

Ref376

The heat taken away by blower is

A	P = 640V (t2 – t1)	B	P = 320V (t2 – t1)
C	P = 1280V (t2 – t1)	D	P = 160V (t2 – t1)
	Answer		

Ref378

The 6 poles wound rotor induction motor is excited by three phase 60 HZ source. Calculate the rotor frequency for (a) Standstill (b) 500 rpm same direction (c) 500 rpm opposite direction.

A	50HZ, 70 HZ, 170HZ	B	60HZ, 35 HZ, 85 HZ
C	25 HZ, 35 HZ, 40 HZ	D	15 HZ, 35 HZ, 125 HZ
	Answer		

Ref380

A three phase induction motor having synchronous speed of 1200 rpm draws 80kw from three phase feeder. Copper loss & iron loss in stator amount to 5kw. If the motor runs at 11452 rpm, calculate the efficiency of motor.

A	45%	B	87.5%
C	75%	D	35%
	Answer		

Ref382

Locked rotor test is performed to determine.

A	Core parameter	B	Winding parameter
C	Load parameter	D	35%

	Answer		

Ref384

A three phase 208 V induction motor having synchronous speed 1200 rpm runs at 1140 rpm. When connected to 215V , driving at constant load, calculate the speed if voltage is 240V

A	1152 rpm	B	800 rpm
C	700 rpm	D	500 rpm
	Answer		

Ref386

The system that reverses the supply connection to the motor terminals when the stop switch is pressed is

A	Dynamic braking	B	Plugging
C	Forward reverse	D	Time delay starter
	Answer		

Ref388

A 500HP 720 rpm synchronous motor connected to 3980V three phase line generates an excitation voltage Ef=1790V (L-N) when the dc excitation current is 25 amp. The synchronous reactance is 22Ω, torque angle between Ef & V is 30°.Calculate shaft torque.

A	2000 N-m	B	3715 N-m
C	1500 N-m	D	750 N-m
	Answer		

Ref390

In a synchronous motor, when power factor is unity, the line current is

A	Maximum	B	Minimum
C	Unchanged	D	
	Answer		

Ref392

Under excitation makes the power factor of a synchronous machine to become

A	Unity	B	Leading
C	Lagging	D	
	Answer		

EE207 DC Machines

Tutoring Lessons

EE207 Part 1 EE207 Part 2 EE207 Part 3

Test & Assessment

http://www.filefactory.com/file/2ejf6p7o0j0f/n/G044_Online_Test_1_Answer_doc

http://www.filefactory.com/file/5iyno92bji67/n/G044_Online_Test_1_Question_pdf

Do the tests and send the answer sheet in soft copy by e-mail to
iqytechnicalcollege@gmail.com

Password- **iqytechnicalcollege**

Study the EE207 File notes and do the exercises

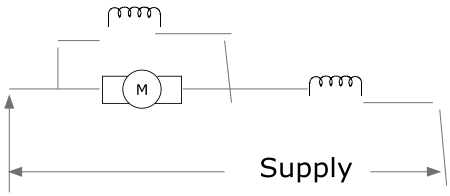
G044 Online Test

Ref394

Power provided by dc generator is

A	P = B I V	B	P = B L V I
C	P = B I L	D	P = B L V
	Answer		

Ref395



This connection is

A	Series	B	Shunt
C	Short shunt compound	D	Long shunt compound
	Answer		

Ref396

Calculate the coil span for

(a) 36 slots, 4 poles simplex lap (b) 36 slots, 2 poles, Duplex wave

A	1 to 10, 1 to 39 & 1 to 35	B	1 to 9, 1 to 38 & 1 to 34
C	1 to 8, 1 to 37 & 1 to 33	D	1 to 7, 1 to 36 & 1 to 32
	Answer		

Ref397

The brushes on a 0.4 m diameter commutator are rocked 0.03m circumferentially. The machine has 6 poles, simplex lap wound, 378 conductors 800 Armature current. Calculate cross magnetizing and de-magnetizing ampere turn / pole.

A	600 AT/pole, 1500 AT /pole	B	1250 AT/pole, 3000 AT /pole
C	300 AT/pole, 750 AT /pole	D	150 AT/pole, 375 AT /pole
	Answer		

Ref398

Motor particulars 3.75 KW, 230V, 18A, 1750 rpm Ra=0.3Ω , brush drop 2V on load.

Calculate final torque if field flux is reduced to 96%

A	50.56 N-m	B	100 N-m
C	150 N-m	D	40 N-m

	Answer		

Ref399

7.5KW 230V 1750 rpm shunt motor, armature resistance 0.35Ω, shunt field resistance 62.2Ω

If no load current is 7.7 amp, full load efficiency 86% , brush drop 3V at full load & 1 V at no load. Calculate % regulation.

A	5.7%	B	10%
C	12%	D	15%
	Answer		

Ref400

The winding resistance of a 500V, 60KW dc shunt motor are Ra=0.2Ω Rf=200Ω, mechanical losses are 1.4KW.Determine the efficiency of the machine.

(a)When the line current is 102.5A (b) At full load.

A	70%, 75%	B	90.93%, 90.9%
C	95%, 93%	D	78%, 87%
	Answer		

Ref401

The resistance of an armature winding at 25°C was found to be 0.26Ω. After a heat run , it becomes 0.296Ω. Calculate the temperature rise of the winding.

A	Δt = 70 °C	B	Δt = 36 °C
C	Δt = 15 °C	D	Δt = 12 °C
	Answer		

Ref402

A 75KW 500V generator has a voltage regulation 4% , calculate

(a) The open circuit voltage

(b) Assuming the voltage varies uniformly between no load and full load current. Calculate the KW output of a terminal voltage 510V.

A	500V, 20 KW	B	250V, 10 KW
C	520V, 38.25 KW	D	500V, 10 KW
	Answer		

Ref403

A 4 poles wound armature operating in a field of flux 0.01wb in wound with360 armature conductors. Determine the expression of torque as a function of speed. If Vt=250V and Ra=0.1Ω.

A	1000 – 1.3 N	B	2000- 2N
C	3000 – 4N	D	2860 – 1.38N
	Answer		

Ref404

The resistance of the armature of a 240V dc shunt motor is 0.5Ω . It is required that the current at starting be limited to 200% of full load current & full load current is 15A.

Determine

(a) Total resistance of armature current at starting

(b) The number of studs on the starter

(c) r3.

A	8Ω, 4, 1Ω	B	10Ω, 3, 0.5Ω
C	8Ω, 2, 1Ω	D	4Ω, 2, 1Ω
	Answer		

Ref405

Which is not a dc motor braking method?

A	Plugging	B	Dynamic braking
C	Mechanical braking	D	Ward Leonard
	Answer		

Ref 406

Which equipment does not produce ripple?

A	PWM Switching	B	Rectifier circuit
C	DC Generator	D	PV Inverter
	Answer		

EE305 Power Transformers

Tutoring Lessons

EE305 Part 1 EE305 Part 2 EE305 Part 3

Test & Assessment

http://www.filefactory.com/file/3ve7iz9640yp/n/G040_Online_Test_1_Question_pdf

http://www.filefactory.com/file/45rptyy2854t/n/G040_Online_Test_1_Answer_doc

Do the tests and send the answer sheet in soft copy by e-mail to
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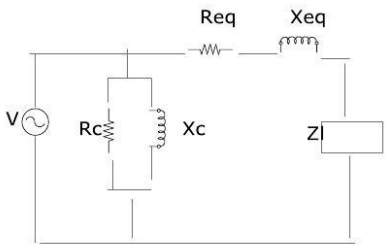
G040 Online Test

Ref339



Req= 0.3Ω, Xeq= 0.4 Ω, Rc= 200 Ω, Xc= 400 Ω, V = 200 V, Zl= 2.7 + j 3.6 Ω

Find efficiency

A	47%	B	86.4%
C	99%	D	35%
	Answer		

Ref340

200/400V Transformer

Open circuit test—Io= 0.7A, Po= 60W

Short circuit test--- Vsc= 9V, Isc= 6A, Psc = 26 w. Find Re', Xe', Rc and Xc

A	0.12 Ω 0.4 Ω, 666.7 Ω, 317.8 Ω	B	0.06 Ω 0.2 Ω, 333.35 Ω, 156 Ω
C	1 Ω ,4 Ω, 666.7 Ω, 317.8 Ω	D	2 Ω ,8 Ω, 500 Ω, 400 Ω
	Answer		

Ref341

KVA = 500, Copper loss = 4 KW, Iron loss = 2.4 KW. Find ½ load efficiency at 0.8 PF lagging.

A	66%	B	98.1%
C	75%	D	40%
	Answer		

Ref342

%Reg = % Req cosΘ+/- %Xeq sinΘ

+ for

A	Leading	B	Lagging
C	Unity	D	
	Answer		

Ref343

Dy, Yd connection is suitable for

A	Small HV transformer	B	Large LV transformer
C	Power supply transformer	D	Earthing transformer
	Answer		

Ref344

10MVA Star/ Star connected transformer. 33KV/ 11KV

No load test Line voltage = 11KV, Line current = 15A, Power = 75KW

Short circuit test Line voltage= 1650V L-L, Line current = rated current, Power=90KW

Find Req, Xeq, Ro', Xo'

A	0.98Ω, 5.3 Ω, 14.5KΩ,2.93 KΩ	B	2Ω, 10 Ω, 20KΩ,5KΩ
C	4Ω, 20 Ω, 40KΩ,15 KΩ	D	1Ω, 5 Ω, 30KΩ,15 KΩ
	Answer		

Ref345

Find the load at maximum efficiency of the following single phase transformer. KVA = 5000, Voltage ratio = 6600/440, Iron loss = 2.9 KW, Full load copper loss = 4KW, Maximum efficiency is achieved at 0.8 PF lagging. Find maximum efficiency.

A	0.7 , 90%	B	0.851, 98.38%
C	0.35, 75%	D	0.45, 85%
	Answer		

Ref346

Find all day efficiency of the following transformer 100 KVA, single phase, Iron loss=750W Full load copper loss = 750W 24 hr load cycle.

Time	Power factor	Output
8 hr	0.8 Lag	80KW
6hr	0.9 lag	50 KVA
4hr	25KVA & 20 KW	
3hr	Energized with no load	
The rest of time	De-energized	

Calculate all day efficiency.

A	98.1%	B	75%
C	60%	D	50%
	Answer		

Ref347

To operate two transformers in parallel , it needs

A	Same voltage ratio	B	Same % impedance
C	Like polarity	D	All above
	Answer		

Ref348

2700KVA load PF 0.9 lagging is supplied by two transformers connected in parallel.

Tr A = 2000KVA Z = 3+J2 ohm

TrB =1000KVA X=3+j5 ohm

Find load A transformer load share, B load share.

A	1350, 1350 KVA	B	900, 1800 KVA
C	1000KVA, 1700KVA	D	721KVA, 2332KVA
	Answer		

Ref349

Which winding can not take away harmonic ?

A	Star/Star without neutral	B	Star/Star with neutral
C	Delta/Delta	D	Star/Delta
	Answer		

Ref350

400/200 V , 50VA transformer needs to supply 600/200V. Find the rating.

A	The same rating	B	100VA
C	33.3VA	D	11VA
	Answer		

Ref351

ONAF is

A	Oil is naturally cooled by force air	B	Forced oil is cooled by forced air
C	Oil is naturally cooled by force oil	D	Oil is naturally cooled by natural air
	Answer		