

<http://www.filefactory.com/file/41af3oi5v8kr/Instruction%20Fiji-Civil%20Engg.pdf>

**OVER ALL COURSE OUTLINE FOR DIPLOMA+ADVANCED DIPLOMA IN CIVIL ENGINEERING**

**STAGE (1) DIPLOMA IN CIVIL ENGINEERING ( Each 2.5 Credits) ( 30 Pt)**

**Certificate in Construction Studies**

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics (EE201)

CE 102 Physics (EE204)

CE 108 Electrical Principle

**DIPLOMA IN CIVIL ENGINEERING**

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design (EE309)

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

**YEAR (2) SEMESTER (1)**

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

**YEAR (2) SEMESTER (2)**

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

EE106 Advanced Electrical Wiring

CE 112 Engineering Mechanics+ ME 301 Applied Mathematics

EE308 Sustainability

## STUDY NOTES + EXERCISES FOR DIPLOMA+ADVANCED DIPLOMA IN CIVIL ENGINEERING

### CE 106A Detailed Construction & Building Construction Materials

CE106 Bricklaying (Audio + Power Points)

[http://www.filefactory.com/file/2axm1voyin8p/n/CE\\_106\\_A\\_Bricklaying\\_Power\\_Points\\_zip](http://www.filefactory.com/file/2axm1voyin8p/n/CE_106_A_Bricklaying_Power_Points_zip)

Password--- iqytechnicalcollege

### ASSIGNMENT

You will have to supervise the bricklaying for a brick house of 40ft x 60ft ( 13m x 20 m) wide.

Prepare a plan to do the jobs in the followings

- Prepare the list of needed materials and hand tool
- Write the report to explain how will you set up the brick laying tasks & insert the relevant sketches ( You can refer the text-books.)
- Your plan should includes
  1. Types of joints
  2. The plan to lay the bricks on footings
  3. Stepped footings
  4. Excavating & building to the lines
  5. Installing the damp proof courses
  6. Spacing of wall ties
  7. Building in metal frame windows
  8. Relevant sketches and diagrams
  9. The report should be 10 to 20 pages

### Additional References

Password--- iqytechnicalcollege

[http://www.filefactory.com/file/39jhmvbrynap/n/Civil\\_Engg\\_Part\\_4\\_pdf](http://www.filefactory.com/file/39jhmvbrynap/n/Civil_Engg_Part_4_pdf)

Page	Contents	Unit Code
68-100	Bricklaying Operation	Building Construction

[http://www.filefactory.com/file/2qd51goi5gzf/n/Civil\\_Engg\\_Part\\_3\\_pdf](http://www.filefactory.com/file/2qd51goi5gzf/n/Civil_Engg_Part_3_pdf)

Page	Contents	Unit Code
1-27	Bricklaying	Building Construction

- Study the notes contained in the above PDF file Civil\_Engg\_Part\_4\_pdf & Civil\_Engg\_Part\_3\_pdf
- All notes are written in English
- All notes included Brick laying basic principle & application for Building
- Do the following assignment

CE 106A Spouting + Guttering 1

**(Powerpoints + Audio Lessons)**

[http://www.filefactory.com/file/61qzey3pehr9/n/CE\\_106A\\_Gutter\\_Spouting\\_1\\_zip](http://www.filefactory.com/file/61qzey3pehr9/n/CE_106A_Gutter_Spouting_1_zip)

CE 106A Spouting + Guttering 2

**(Powerpoints + Audio Lessons)**

[http://www.filefactory.com/file/1dt0ilgx0hg7/n/CE\\_106A\\_Gutter\\_Spouting\\_2\\_zip](http://www.filefactory.com/file/1dt0ilgx0hg7/n/CE_106A_Gutter_Spouting_2_zip)

[http://www.filefactory.com/file/2qd51goi5gzf/n/Civil\\_Engg\\_Part\\_3\\_pdf](http://www.filefactory.com/file/2qd51goi5gzf/n/Civil_Engg_Part_3_pdf)

Page	Contents	Unit Code
28-72	Spouting/ Guttering	Building Construction

You will have to supervise the Spouting/ Guttering for a brick house of 40ft x 60ft ( 13m x 20 m) wide.

Prepare a plan to do the jobs in the followings

- Prepare the list of needed materials and hand tool
- Write the report to explain how will you set up the brick laying tasks & insert the relevant sketches ( You can refer the text-books.)
- Your plan should includes
  1. Location of mitres
  2. Making external 90 degree mitre standard spouting
  3. Joining the sheets
  4. Making valley gutters
  5. Recommended materials thicknesses
  6. Joining roof gutters
  7. Welding methods to be applied
  8. Relevant sketches and diagrams
  9. The report should be 10 to 20 pages

All reports can be digital photographed and send by e-mail.

## **CE 104 A Building Drawing**

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**Lecture Powerpoints + Audio Lessons**

CE104 Building Drawing Part 1

[http://www.filefactory.com/file/77wkcuklgsx/n/CE104\\_Building\\_Drawing\\_Part\\_1\\_zip](http://www.filefactory.com/file/77wkcuklgsx/n/CE104_Building_Drawing_Part_1_zip)

CE104 Building Drawing Part 2

[http://www.filefactory.com/file/lzpq7iqrqz/n/CE104\\_Building\\_Drawing\\_Part\\_2\\_zip](http://www.filefactory.com/file/lzpq7iqrqz/n/CE104_Building_Drawing_Part_2_zip)

CE104 Building Drawing Part 3

[http://www.filefactory.com/file/7f6ps1ngpedn/n/CE104\\_Building\\_Drawing\\_Part\\_3\\_zip](http://www.filefactory.com/file/7f6ps1ngpedn/n/CE104_Building_Drawing_Part_3_zip)

CE104 Building Drawing Part 4

[http://www.filefactory.com/file/47xsj6bem5yx/n/CE104\\_Building\\_Drawing\\_Part\\_4\\_zip](http://www.filefactory.com/file/47xsj6bem5yx/n/CE104_Building_Drawing_Part_4_zip)

### **Study the notes**

[http://www.filefactory.com/file/3fcoi50dd1xj/n/Civil\\_Engg\\_Part\\_13\\_pdf](http://www.filefactory.com/file/3fcoi50dd1xj/n/Civil_Engg_Part_13_pdf)

Page	Contents	Unit Code
52-68	Drawing Lesson 1-4	Building Construction

### **ASSESSMENT (3)**

- (1) Isometric drawing
- (2) Lettering
- (3) Working drawing
- (4) Blue print
- (5) Reproduction of drawings
- (6) Measured drawing
- (7) Floor plan
- (8) Room schedule
- (9) Plumbing drawing
- (10) Block plan

References

Study basic building drawing notes in the given file and page numbers

[http://www.filefactory.com/file/2e9pdbutw5lp/n/Civil\\_Engg\\_Part\\_12\\_pdf](http://www.filefactory.com/file/2e9pdbutw5lp/n/Civil_Engg_Part_12_pdf)

Page	Contents	Unit Code
1-6	Drawing	Building Construction
7-19	Drawing Lesson 5-6	Building Construction
20-28	Drawing Lesson 7-8	Building Construction
29-40	Drawing Lesson 9-10	Building Construction
41-60	Drawing Lesson 9-12	Building Construction
61-75	Drawing Lesson 11-12	Building Construction
76-92	Drawing Lesson 13-15	Building Construction
93-100	Drawing Lesson 7-8	Building Construction

### **ASSESSMENT (4)**

After you have studied the Drawing Lesson 5-6, do the following exercise

What is meant by the following:

- (a) 1 : 500 scale.
- (b) Contract drawings.

**ASSESSMENT (5)**

After you have studied the Drawing Lesson 7-8, do the following exercise.

2. What is the meaning of the following:

- (a) Safe Bearing Value
- (b) Test bore
- (c) Encumbrances.

**ASSESSMENT (6)**

After you have studied the Drawing Lesson 9-10, do the following exercise.

TEST ASSIGNMENT

1. Prepare, on a sheet of white paper 500 by 350 the following drawings. They are to be in pencil, except for the main title which is to be in ink.
- (a) Detail Plan to a scale of 1 to 10 of the Bathroom area from the drawing on Plate 2 of this Paper. (Include the Pipe Duct and the adjacent Cupboard).
  - (b) A 1 : 5 scale detail of the drawing shown on Plate 4 of this Paper.
  - (c) A 1 : 2 scale detail of the sill shown on the "Section" on Plate 3 of this Paper. Show everything from the bottom rail of the sash to the bottom of that Section.
  - (d) Title: Add the following title at the bottom of the sheet, spaced as you think best:

BUILDERS' DRAWING  
TEST ASSIGNMENT No.9.  
Drawn by ..... (name)  
Date .....  
Scales .....

**ASSESSMENT (7)**

After you have studied the Drawing Lesson 11-12, do the following exercise.

Paper 10

TEST ASSIGNMENT

Assuming that you are required to prepare a combined schedule for Finishes and Painting of a large block of flats, set out on drawing paper approximately 375 x 250 the ruled layout of that schedule. Include at least four typical rooms with details filled in.

The sheet is to be prepared as you would actually do the job, with proper lettering and neat layout, all in pencil.

Place a title at the bottom of the sheet including the following information:

" BUILDERS' DRAWING  
PAPER No.10.  
SCHEDULE OF FINISHES AND PAINTING  
Drawn by ..... (name)  
Date ..... "

**ASSESSMENT (8)**

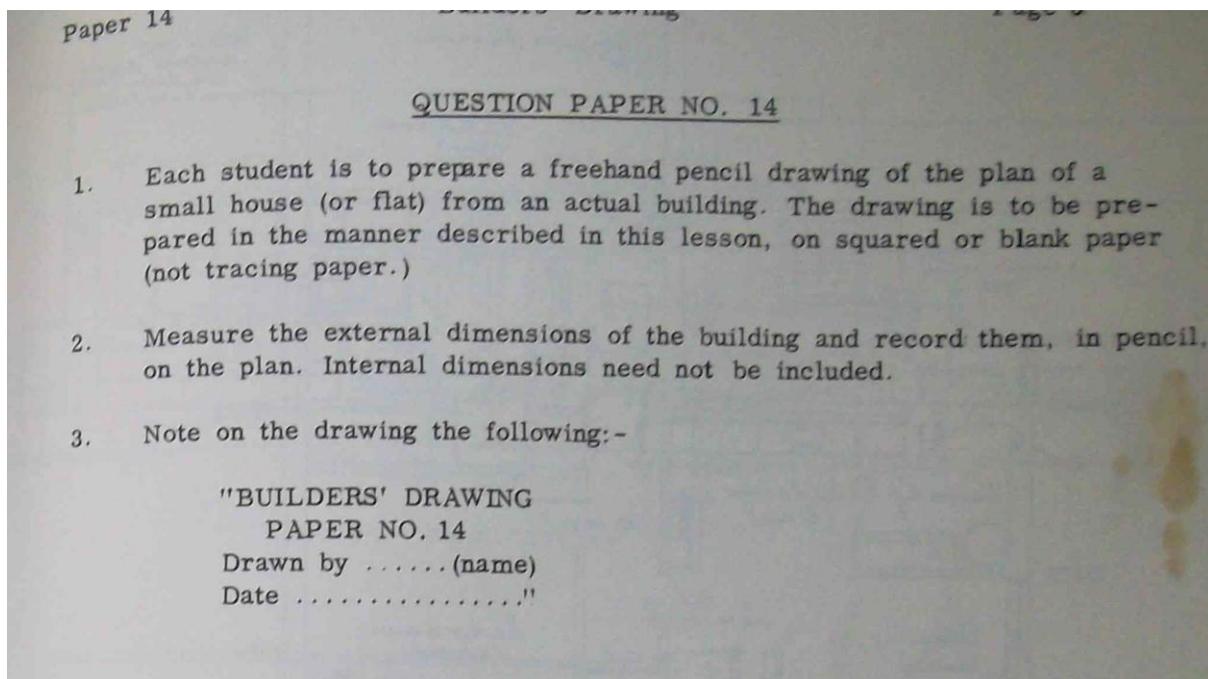
After you have studied the Drawing Lesson 13-15, do the following exercise.

QUESTION PAPER NO 13.

1. What is the fundamental difference between Drainage Plans and Plumbing Drawings?
2. Make a copy, on drawing paper, of the Drainage Plan and the Symbols shown on Plate 1. The drawing and all lettering are to be done in ink. Provide suitable titles.

**ASSESSMENT (9)**

After you have studied the Drawing Lesson 13-15, do the following exercise.



You can submit your assignment

[CE 101 \(Maths 101+302+403 \(EE201\) Engineering Mathematics\)](#)

**PLEASE NOTE THAT THE LESSONS ARE EXPLAINED IN MYANMAR LANGUAGE  
FIRST & THEN IN ENGLISH**

Password--- iqytechnicalcollege

**Study the followings**

[EE201 Part 1](#)   [EE201 Part 2](#)   [EE201 Part 3](#)   [EE201 Part 4](#)

**Then sit the test**

## **ASSESSMENT (10)**

### **Test & Assessment**

[http://www.filefactory.com/file/5ho7s6h0svhv/n/E050\\_Online\\_Test\\_1\\_Answer\\_doc](http://www.filefactory.com/file/5ho7s6h0svhv/n/E050_Online_Test_1_Answer_doc)

[http://www.filefactory.com/file/6dqp87kdsorz/n/E050\\_Online\\_Test\\_1\\_Question\\_pdf](http://www.filefactory.com/file/6dqp87kdsorz/n/E050_Online_Test_1_Question_pdf)

Do the tests and send the answer sheet in soft copy by e-mail to  
**[iqytechnicalcollege@gmail.com](mailto:iqytechnicalcollege@gmail.com)**

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## **CE 102 Physics**

**PLEASE NOTE THAT THE LESSONS ARE EXPLAINED IN MYANMAR LANGUAGE  
FIRST & THEN IN ENGLISH**

### **Study the followings**

Password--- iqytechnicalcollege

### **EE204 Engineering Physics**

[EE204 Part 1](#)   [EE204 Part 2](#)   [EE204 Part 3](#)   [EE204 Part 4](#)   [EE204 Part 5](#)

[EE204 Part 6](#)

### **Then sit the test**

## **ASSESSMENT (11)**

### **Test & Assessment**

[http://www.filefactory.com/file/13o82qnudgr3/n/E046\\_Online\\_Test\\_1\\_Question\\_pdf](http://www.filefactory.com/file/13o82qnudgr3/n/E046_Online_Test_1_Question_pdf)

[http://www.filefactory.com/file/6o2lsbtge7tt/n/E046\\_Online\\_Test\\_1\\_Answer\\_doc](http://www.filefactory.com/file/6o2lsbtge7tt/n/E046_Online_Test_1_Answer_doc)

Do the tests and send the answer sheet in soft copy by e-mail to  
**[iqytechnicalcollege@gmail.com](mailto:iqytechnicalcollege@gmail.com)**

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## [CE 108 Electrical Principle](#)

**PLEASE NOTE THAT THE LESSONS ARE EXPLAINED IN MYANMAR LANGUAGE  
FIRST & THEN IN ENGLISH**

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**Study the followings**

### **EE101 DC Circuit Problems**

[Lesson 1](#)   [Lesson 2](#)   [Lesson 3](#)

**Then sit the test**

**ASSESSMENT (12)**

#### **Test & Assessment**

[http://www.filefactory.com/file/58r3nfe1qieh/n/E003\\_E004\\_Online\\_Test\\_1\\_Question\\_pdf](http://www.filefactory.com/file/58r3nfe1qieh/n/E003_E004_Online_Test_1_Question_pdf)

[http://www.filefactory.com/file/796n6fdurdij/n/E003\\_E004\\_Online\\_Test\\_1\\_Answer\\_doc](http://www.filefactory.com/file/796n6fdurdij/n/E003_E004_Online_Test_1_Answer_doc)

Do the tests and send the answer sheet in soft copy by e-mail to  
**[iqytechnicalcollege@gmail.com](mailto:iqytechnicalcollege@gmail.com)**

## **EE102 Basic Electrical Fitting & Wiring**

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**Study the followings**

[Lesson 1](#)   [Lesson 2](#)   [Lesson 3](#)

**Then sit the test**

**ASSESSMENT (13)**

#### **Test & Assessment**

<http://www.classroomclipboard.com/503511/Home/Test/e3b8ef2c72e94d209034f9633e22c26a#/InitializeTest.xaml>

Type your name Put the following access code

CEAHU

Notify teacher

Complete Part 1 of Diploma in Civil Engineering

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[CE 104 Fluid Dynamics](#)

[CE 105 Hydraulic](#)

[CE 106 Hydrology](#)

Do the following to complete above units

[ME201 Part 1 \[http://www.filefactory.com/file/23rjyg1cx50j/n/ME201\\\_Part\\\_1\\\_zip\]\(http://www.filefactory.com/file/23rjyg1cx50j/n/ME201\_Part\_1\_zip\)](http://www.filefactory.com/file/23rjyg1cx50j/n/ME201_Part_1_zip)

[ME201 Part 2](#)

[http://www.filefactory.com/file/3fepjr47o1wz/n/ME201\\_Part\\_2\\_zip](http://www.filefactory.com/file/3fepjr47o1wz/n/ME201_Part_2_zip)

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[ME201 Part 3](#)

[http://www.filefactory.com/file/5sct05zqfui3/n/ME201\\_Part\\_3\\_zip](http://www.filefactory.com/file/5sct05zqfui3/n/ME201_Part_3_zip)

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Study the notes in ME201 Part 1 folder and do the following exercises.

Slide 1

Q1. Describe the nature of fluid.

Slide 2

Q2. Write continuum equation of fluid.

Slide 3

Q3. What are the properties of fluids

Q4. What is density?

Slide 5

Q5. What is viscosity?

Slide 6 to 8

Q6. Write the equation for viscosity.

Slide 9 to 11

Q7. Explain surface tension & write the equation.

Slide 12

Q8. What is compressibility?

Slide 13.

Q9. Outline the broad classification of fluid mechanic.

Slide 14.

Q10. Explain fluid statistics.

Slide 15 to 17

Q11. Write the equation for pressure.

Slide 18

Q12. Show pressure variation in the direction of gravity.

Slide 19

Q13. Define the followings.

(a) Pressure (b) Head

Slide 20

Q14. Explain measurement of pressure.

### **Wk 3-ME 204 Engineering Fluid Mechanics**

**±**

### **ME 301 Fluid Dynamics ( Needs to do)**

Study ME 301 folder & do the exercises

ME204

[http://www.filefactory.com/file/343m93h33fl3/n/ME204\\_zip](http://www.filefactory.com/file/343m93h33fl3/n/ME204_zip)

Password--- iqytechnicalcollege

Slide 1

Q1. What kind of forces are acting on fluid particles?

Slide 2

Q2. Write the equation for compressible flow.

Slide 3

Q3. Express Navier Stokes equation and energy equation.

Slide 4

Q4. Write the equation for dissipation function.

Slide 5

Q5. Write the equation for incompressible flow.

Slide 6 to 8

Q6. Explain turbulent flow with diagram and express the graphs for instantaneous and average velocities.

Slide 9

Q7.Explain inviscid flow

Slide 10.

Q8.Explain boundary layer

## CE 103 Basic Surveying

**All lessons will be supported by powerpoints audio explanation or MP# audio files sent by e-mails.**

### Study

CE 103 Basic Surveying Part 1 Powerpoint

CE 103 Basic Surveying Part 2 Powerpoint

CE 103 Basic Surveying Part 3 Powerpoint

CE 103 Basic Surveying Part 4 Powerpoint

CE103 Part 1 [http://www.filefactory.com/file/3fimc70nxb93/n/CE103\\_Part\\_1\\_zip](http://www.filefactory.com/file/3fimc70nxb93/n/CE103_Part_1_zip)

Password--- iqytechnicalcollege

CE103 Part 2

[http://www.filefactory.com/file/1wbfefqwwtb3/n/CE103\\_Part\\_2\\_zip](http://www.filefactory.com/file/1wbfefqwwtb3/n/CE103_Part_2_zip)

Password--- iqytechnicalcollege

CE103 Part 3

[http://www.filefactory.com/file/24mhb46yhn15/n/CE103\\_Part\\_3\\_zip](http://www.filefactory.com/file/24mhb46yhn15/n/CE103_Part_3_zip)

Password--- iqytechnicalcollege

## CE 103 Basic Surveying

**All lessons will be supported by powerpoints audio explanation or MP3audio files sent by e-mails.**

### Study

CE 103 Basic Surveying Part 1 Powerpoint

**Then do the exercises**

Slide 1

Q1.Explain slope correction procedure.

Slide 2

Q2.Describe the followings

- (a) Levelling (b) Datum (c) Level line

Slide 3

Q3. Explain the types of surveyor levels

Slide 4

Q4. Sketch level telescope

Slide 5, 6, 7

Q5. What is surveyor's staff?

Slide 8

Q6. How the height is set off the floor?

Slide 9

Q7. Determine the height above the sea level of given building

Slide 10+11

Q8. How will you adjust the cross hair?

Slide 12

Q9. What are the methods to reduce the error?

## CE 103 Basic Surveying

**All lessons will be supported by powerpoints audio explanation or MP3 audio files sent by e-mails.**

### Study

#### CE 103 Basic Surveying Part 2 Powerpoint

#### Then do the exercises

Slide 1

Q1. What are the rules to reduce change point error?

Slide 2 to 6

Q2. Study the notes and do the exercise on CHECK YOUR PROGRESS (4)

Slide 6 to 8

Q3. Study the notes and do the exercise on CHECK YOUR PROGRESS (5)

Slide 11+12+13+14

Q4. How do you establish the grid level?

### Study

#### CE 103 Basic Surveying Part 3 Powerpoint

Slide 1

Q1. What is a grade?

Slide 2

Q2. Describe the followings

- (a) Grade as angle (b) Grade as ratio (c) Grade as percentage

Slide 3+4

Q3. Study the notes and do the exercise in CHECK YOUR PROGRESS (1)

Slide 5+6

Q4. Study the notes and do the exercise in CHECK YOUR PROGRESS (2)

Slide 7+8+9

Q5. Explain longitudinal section with one example

Slide 10 to 15.

Q6. Study the notes and do the exercise in CHECK YOUR PROGRESS (3)

Answers are given on slide 17 & 18.

## CE 107 Sanitation-and-Water-supply

**All lessons will be supported by powerpoints audio explanation or MP# audio files sent by e-mails.**

### Study

BAE606 Wk3A+CE 107

BAE606 Wk 3A+CE107

[http://www.filefactory.com/file/1u4vtv82llax/n/BAE606\\_Wk3A\\_CE\\_107](http://www.filefactory.com/file/1u4vtv82llax/n/BAE606_Wk3A_CE_107)

Password--- iqytechnicalcollege

## CE 107 Sanitation-and-Water-supply

**All lessons will be supported by powerpoints audio explanation or MP# audio files sent by e-mails.**

### Study

BAE606 Wk3A+CE 107

Slide 2

Q1 Explain the basic principle of plumbing

Slide 3

Q2. Describe storm drainage.

Slide 4

Q3.Sketch (a) Coupling (b) Elbow (c) Union connector

Slide 9

Q4. Sketch Gate valve & Tee

Slide 10

Q5. What are the principle types of plastic pipes used in workplace?

Slide 12.

Q6. Sketch piping diagram for water service, gas service, hot and cold water lines.

Slide 13.

Q7. Write the general rule governing piping.

Slide 14

Q8. Sketch wet water column arrangement.

Slide 16

Q9. Describe piping supports.

Slide 17.

Q10. Explain thermal expansion

Slide 18.

Q11. Sketch hot water piping expansion loop.

Slide 20+21

Q12. Sketch globe valve.

Slide 22.

Q13. Sketch check valve

Slide 24

Q14. List plumbing fixtures usage in school

Slide 27

Q15. Copy the drawing on this slide.

Slide 28.

Q16. Copy the drawing on this slide.

Slide 29.

Q17. Copy the drawing on this slide.

Slide 30

Q18 Write the meanings of the followings

(a) CT (b) CI (c) WI

Slide 31

Q19. Copy the drawing on this slide.

Slide 32

Q20. Copy the drawing on this slide.

Slide 33.

Q21. Copy the drawing on this slide.

Slide 34

Q22. Copy the drawing on this slide.

Slide 36.

Q23. Copy the drawing on this slide.

Slide 37

Q24 What are the use of the followings

(a) Water closet (b) Urinal (c) Kitchen sink

Slide 38.

Q25. Copy the drawing on this slide.

Slide 39

Q26. Sketch the down feed system.

Slide 40.

Q27. Copy the drawing on this slide.

Slide 43.

Q28. Copy the drawing on this slide.

Slide 44.

Q29. Copy the drawing on this slide.

Slide 46.

Q30. Copy the drawing on this slide.

Slide 47.

Q31. Copy the drawing on this slide.

Slide 48.

Q32. Copy the drawing on this slide.

Slide 49.

Q33. Copy the drawing on this slide.

## CE 109 Energy Efficient Building Design

All lessons will be supported by powerpoints audio explanation or MP# audio files sent by e-mails.

### Study

BAE606 Wk1A+CE 109

BAE606 Wk 1A HVAC+CE109 [http://www.filefactory.com/file/14vt1rpjmm1j/n/BAE606\\_Wk\\_1A-HVAC\\_zip](http://www.filefactory.com/file/14vt1rpjmm1j/n/BAE606_Wk_1A-HVAC_zip)

Password--- iqytechnicalcollege

Then do the exercises.

Slide 1

Q1. Copy the diagram on this slide & label the components.

Slide 2

Q2. The house has a calculated sensible cooling load of 46000 Btuh. Return air temperature is 79 Degree F and supply air temperature is 57 Deg F. What is the blower air output requirement?

Slide 3

Q3. Write the equation of air pressure in duct.

Slide 4

Q4. Write the equation to calculate the velocity pressure in duct.

Slide 7

Q5. Copy the diagram on this slide & label the components.

Slide 9

Q6. Copy the diagram on this slide & label the components

Slide 10

Q7. Copy the diagram on this slide & label the components

Slide 13.

Q8. Show the symbols for the followings

(a) Supply grille (b) Door grille (c) terminal outlet (d) Combination diffuser

Slide 14.

Q9. Express the meanings of the followings

(a) AHU (b) CFM (c) FD (d) RAD € UV

Slide 15

Q10. Explain comfort zone

Slide 16.

Q11. Sketch the envelop of total air stream injected by air jet

Slide 20

Q12. Copy the diagram on this slide & label the components

Slide 21

Q13. Sketch single zone system.

Slide 22

Q13. Copy the diagram on this slide & label the components

Slide 23

Q14. Sketch multi-zone system

Slide 24

Q15. Sketch duct reheat system

Slide 25.

Q16. Sketch single duct variable volume system

Slide 26

Q17. Sketch double duct system.

Slide 28

Q18. Copy the diagram on this slide & label the components

Slide 30

Q19.

A trunk duct 14 in. in diameter and 30 ft long carries 1100 cfm.. What is its static friction loss? What is the air velocity?

Slide 33

Q20. Write the equation for volume of air flow.

Slide 34

Q21

A design technologist has of using a 10-in. round duct or a 12 x 7-in. lar duct to carry 350 cfm of conditioned give the same friction (see Table 5.4). air velocity in each.

Slide 35

Q22

Explain equivalent duct length for fitting losses.

Slide 36

Q23

Sketch the profile pressure diagram.

Slide 37

Q24. A smooth radius 10 in , diameter 90 degree elbow with a radius of 15 in , carries 500 cfm. Calculate its pressure loss.

Slide 38

Q25. Explain the source of duct system pressure loss.

Slide 39

Q26 Explain equal friction method.

Slide 41

Q27 Write load calculation formula.

Slide 43 to 45

Q28. Write the process to locate the supply and return outlets.

Slide 46

Q29. Write designer's checklists

Slide 48.

Q30. Copy the diagram on this slide & label the components

Slide 49.

Q31. Copy the diagram on this slide & label the components

Slide 50.

Q32. Copy the one of diagrams on this slide & label the components.

Slide 51.

Q33. Copy the diagram on this slide & label the components.

Slide 53.

Q34. Copy the diagram on this slide & label the components.

Slide 54

Q35. Copy the diagram on this slide & label the components.

Slide 55

Q36. Copy the diagram on this slide & label the components.

Slide 56

Q37. Copy the diagram on this slide & label the components.

Slide 59

Q38. Copy the diagram on this slide & label the components.

Slide 60

Q39. Copy the diagram on this slide & label the components.

Slide 61

Q40 Sketch exhaust ventilation system.

### **CE 110 Building Construction (Part 1)**

Study BAE606 Wk 1+CE 110 & do the following exercises.

BAE606 Wk 1 CE 110

[http://www.filefactory.com/file/5fbu60ltwqrt/n/BAE606\\_Wk\\_1\\_CE\\_110\\_zip](http://www.filefactory.com/file/5fbu60ltwqrt/n/BAE606_Wk_1_CE_110_zip)

BAE606 Wk 2 CE 110

[http://www.filefactory.com/file/5ewwvzb4twz/n/BAE606\\_Wk\\_2\\_CE\\_110\\_zip](http://www.filefactory.com/file/5ewwvzb4twz/n/BAE606_Wk_2_CE_110_zip)

BAE606 Wk 3+CE110

[http://www.filefactory.com/file/7h0q461l0sxx/n/BAE606\\_Wk\\_3\\_CE110\\_zip](http://www.filefactory.com/file/7h0q461l0sxx/n/BAE606_Wk_3_CE110_zip)

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### **CE 110 Building Construction (Part 1)**

Slide 1

Q1.How should building be constructed?

Slide 3

Q2. Explain foundation & copy the drawing of the diagram shown on this slide.

Slide 4

Q3. Describe the different constructions of roofs.

Slide 5

Q4. Copy the drawing of the diagram shown on this slide.

Slide 6

Q5. Explain the followings

(a) Joist (b) Rafter (c) Purlins (d) Girders (e) Trusses

Slide 7

Q6. Explain windows & doors

Slide 8

Q7. Copy the drawing of the diagram shown on this slide.

Slide 9

Q8. Copy the drawing of the diagram shown on this slide.

Slide 10

Q9. Explain the hardware used for doors.

Slide 11

Q10. Explain **Acoustics**.

Slide 12

Q11. Write notes for the followings

(a) Stairways (b) Elevator (c) Escalators

Slide 13

Q12. Describe the design procedures

Slide 14.

Q13. How do you understand building codes?

Slide 15.

Q14. Describe the bracing of low buildings

Slide 16.

Q15. Describe the bracing of tall buildings.

Slide 17

Q16. Describe roof drainage system.

Slide 18.

Q17. Explain the drainage at the bottom of a foundation wall.

Slide 19.

Q18. Copy the drawing of the diagram shown on this slide.

Slide 20.

Q19. Write fire protection and limitation arrangements in building.

Slide 21 to 24

Q20 Explain the followings.

(a) Mortar (b) Window glass (c) Mechanical properties of wood (d) Types of carbon steels

### **CE 110 Building Construction (Part 2)**

BAE606 Wk 2+CE 110 & do the following exercises.

Slide 1

Q1. Explain the followings

- (a) Dynamic load (b) Impact load (c) Concentrated load (d) Wind load
- (e) Torsional load

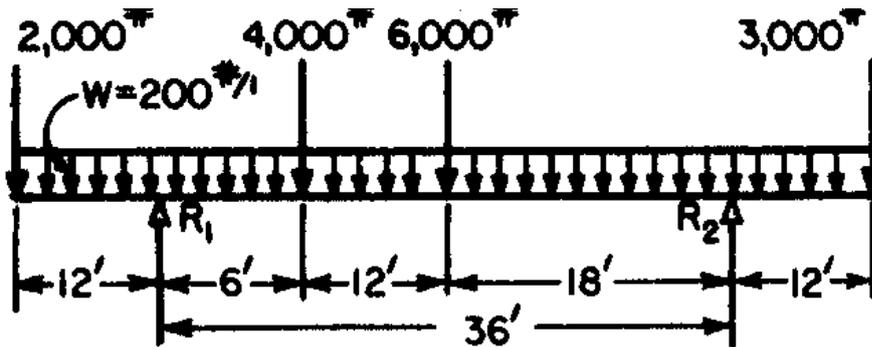
Slide 3

Q2. Sketch the followings

- (a) Simple beam (b) Cantilever beam (c) Continuous beam

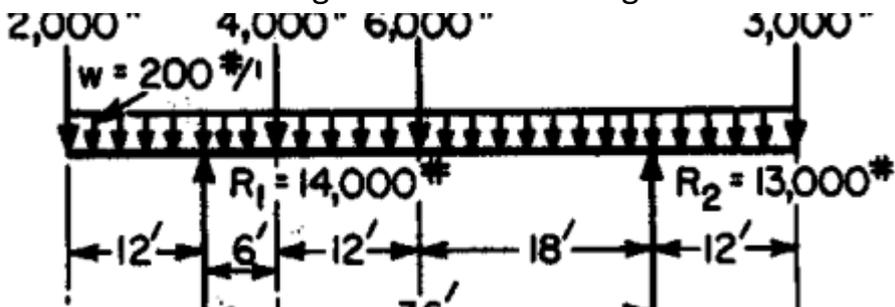
Slide 4

Q3. Calculate reaction  $R_1$  &  $R_2$



Slide 5

Q4. Draw the shear diagram of the following



Slide 6

Q5. Copy the diagram on this slide

Slide 7

Q6. What is foundation?

Slide 8.

Q7. Explain standard penetration test.

Slide 10

Q8 Explain the followings

- (a) General shear (b) Punching shear

Slide 11

Q9. What is retaining wall?

Slide 12

Q10. Explain the followings

(a) Mat foundation (b) Cavities (c) Shallow settlement

Slide 13.

Q11. Copy the diagram on this slide

Slide 16

Q12. What is fastener?

Slide 17

Q13. How welding is utilized?

Q14. Copy the diagram on this slide

Slide 18

Q15. Explain the application of truss

Slide 19

Q16. Explain the bracing of tall buildings.

Slide 20.

Q17. Copy the diagram on this slide.

Slide 21

Q18. Copy the diagram on this slide.

Slide 22

Q19. Copy the diagram on this slide.

Slide 23

Q20. Write the requirement equations for the followings

(a) H beam (b) I beam

### **CE 110 Building Construction (Part 3)**

BAE606 Wk 2A+CE 110 & do the following exercises.

Slide 1

Q1. Write the equation for un-reduced live load.

Slide 2

Q2. Describe the following exposures

(a) Exposure A (b) Exposure B (c) Exposure C

Slide 4

Q3. Write the basic design formulas for multi-storey building.

Slide 5

Q4. Write the equation to calculate stress & strain

Slide 6

Q5. Write the equation to calculate the modulus of rigidity

Slide 8

Q6. Write the equation to calculate the cantilever shear deflection.

Slide 9

Q7. Write the equation to calculate total deflection for wall.

Slide 10

Q8. Write the equations to calculate torsion in concrete members.

Slide 11

Q9. Write the equations to calculate deflection of reinforced concrete and slabs.

Slide 12.

Q10. Write the equations to calculate the capacity of bearing walls.

Slide 18

Q11. Copy the diagram on this slide.

Slide 19

Q12. Copy the diagram on this slide.

Slide 20

Q13. Copy the diagram on this slide.

### **CE 110 Building Construction (Part 4+5)**

Based on what you have learnt in this unit, write down the procedures to construct a house.

**Study CE 111A Road Construction.pdf** or CE 111A Road Construction.pptx and do the following exercises.

#### **CE 111A Road Part 1**

<http://www.filefactory.com/file/2eek4mltqv35/CE111A%20Road%201.zip>

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#### **CE111A Road Part 2**

[http://www.filefactory.com/file/6tzmcwf7hx03/n/CE111A\\_Road\\_2\\_zip](http://www.filefactory.com/file/6tzmcwf7hx03/n/CE111A_Road_2_zip)

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### CE 111A Road Part 2

<http://www.filefactory.com/file/2wpoexveo4y9/CE111A%20Road%202.zip>

Password--- iqytechnicalcollege

### CE 111A Road Part 3

<http://www.filefactory.com/file/kkxry2n1zv/CE111A%20Road%203.zip>

Password--- iqytechnicalcollege

### CE 111A Railway

<http://www.filefactory.com/file/p2eldcgdslv/CE111A%20Railway.zip>

Password--- iqytechnicalcollege

Study CE 111A Road Construction.pdf or CE 111A Road Construction.pptx and do the following exercises.

Slide 1+2

Q1. What are the requirements for the road?

Slide 3

Q2. Describe road alignment.

Slide 4

Q3. Outline typical road designs.

Slide 5.

Q4 Describe the planning process of road design.

Slide 7 to 10.

Q5. What are the types of survey works in road design?

Slide 11

Q6. What are the things to be careful in designing the road?

Slide 13.

Q7. In which aspects the special attention needs to be put?

Slide 14+15+16

Q8. What information should be recorded in technical assessment of the road work?

Slide 18 to 20.

Q9. Explain the construction target setting & planning process.

Slide 21.

Q10. Outline the construction sequence of road.

Slide 22 to 24

Q11. Explain the followings

(a) Daily work planning (b) Gang balancing (c) Control of work

Slide 25+26

Q12. What are the standard requirements for a site camp?

Slide 31.

Q13. Write the checking list for maintaining tools and equipments.

Slide 32+33

Q14. Explain the followings

(a) Calvert rings (b) Cements (c) Pegs

Slide 34 to 43

Q15. Explain the basic principle of setting out.

Slide 44

Q16. Explain the clearing for constructing the road.

Slide 45 to 47

Q17. Describe earth work.

Slide 49+50

Q18. From height of the high side profile, what are the facts that can be known by you?

Slide 51 to 54.

Q19. Explain chamber & drain constructions.

Slide 56.

Q20. How do you calculate the earthwork volume?

Slide 60 to 64

Q21. Explain road drainage system.

Slide 65 to 68

Q22. Explain mitre drain with sketch.

Slide 69+70

Q23. Explain silt check with sketch.

Slide 71+72+73+74

Q24. Explain

(a) cut off drain (b) Drift

Slide 75

Q25. What is the location for river crossing?

Slide 76+77

Q26. Explain drift approach with sketch.

Slide 79.

Q27. Explain the procedure of gravelling

Slide 80

Q28. What the tasks required for placing gravels?

Study CE 111A Bridge.pptx and do the following exercises.

Slide 1 to 6

Q1.What is bridge?

Q2.What are the types of bridges? Answer with necessary sketches.

Slide 9

Q3.Explain bridge maintenance

Slide 10

Q4.Explain the followings

(a) Bridge failure (b) bridge monitoring

(b) Study CE111A railways.pptx and do the following exercises.

(c) Slide 1

Q1.What are the advantages of using railways?

Slide 2+3

Q2.What are the basic considerations and guidelines to be used in the establishment of railway horizontal and vertical alignments ?

Slide 4+5

Q3.Describe the effect of centrifugal force with sketch.

Slide 6

Q4 How superelevation is applied?

### Study CE115 Estimation & Specification

CE 115 Part 1---- Civil Engg Part 9—Page 40 to 100

together with audio support files and do the following exercises.

(R782)

[http://www.filefactory.com/file/4w0onks81o5h/n/Civil\\_Engg\\_Part\\_9\\_pdf](http://www.filefactory.com/file/4w0onks81o5h/n/Civil_Engg_Part_9_pdf)

Page	Contents	Unit Code
38-100	Builder Estimating	Building Construction

## Civil Engg Part 9

Page 40 to 41

Q1. What are the contents to be included in contract document?

Page 44

Q2. What are to be included in estimate?

Page 45 & 49+ 50

Q3. What are to be included in labour's cost?

Page 62

Q4. Provide the summary of bills of quantity.

Page 64

Q5. Explain the followings

(a) Base time (b) Standard rating.

Page 65

Q6. Provide the equation to calculate standard time of bricklayer.

Page 68.

Q7. Explain the followings

(a) c & f (b) COD (c) FOB

Page 69

Q8. Describe the cost of operating builder's lorry.

Page 72+73

Q9. What are the costs of mechanical plant?

Page 79

Q10. What are the rates of cost for excavation and earth work?

Page 86

Q11. What are the rates of cost for brick work & block work?

Page 92.

Q12. What are the rates of cost for bubble walling and masonry?

Page 98.

Q13. What are the rates of cost for carpentry?

## CE 114 Structure Part 2

Structure Part 2 Instruction

[http://www.filefactory.com/file/41trz6g660jh/n/CE114\\_Structure\\_Part\\_2\\_Instruction\\_zip](http://www.filefactory.com/file/41trz6g660jh/n/CE114_Structure_Part_2_Instruction_zip)

CE114 Structure 2 Notes

[http://www.filefactory.com/file/7h3wty6t05bn/n/CE\\_ME\\_Part\\_12\\_pdf](http://www.filefactory.com/file/7h3wty6t05bn/n/CE_ME_Part_12_pdf)

Password--- iqytechnicalcollege

Page 1

Q1. Write the formula for the members subject to bending.

Page 2

Q2. What is plastic limit and yield limit for flat uniform compression at one end and tension at another end.

Page 4

Q3. Write the formulas to calculate member capacity of segments with full lateral restraints.

Page 5

Q4. Sketch the diagrams of different kinds of restraints.

Page 7

Q5. Write the formula to calculate member capacity of segments without fully lateral restraints.

Page 10

Q6. Write the values of moment modification factors for segments un-restrained at one end.

Q7. Write the equation to calculate twist restraint factor.

Q8. Write the equation to calculate load height factor for gravity load.

Page 12

Q9.Explain shear capacity of web.

Page 13

Q10.Write the equation for interaction of shear and bending proportion method.

Page 14

Q11.Describe compressive bending action on the edge of a web.

Page 15+16

Q12.Write the equations to calculate bearing capacity ,bearing yield capacity and buckling capacity.

Page 18.

Q13.Write the formula to calculate design for axial compression.

Page 20.

Q14.What is the compression member section constant for hot rolled UB and UC sections flange thickness up to 40 mm, welded H and I section fabricated from flame cut plates welded box sections.

Page 23

Q15. Write the formula to calculate design for axial tension.

Q16.Explain the distribution of forces.

Page 24

Q17. Write the design requirement for tension member composed of two components back to back.

Page 25.

Q18.Name the methods of analysis to calculate the design bending moments.

Page 26.

Q19.Write the formula to calculate biaxial bending .

Page 28.

Q20.Write the equation to calculate plastic moment capacity.

Page 30+31.

Q21.Explain the classifications of connection.

Page 32

Q22.Describe design of bolts.

Q23.Write the equation to calculate bolt strength limit.

Page 34.

Q24.Write the equations for design of a pin connection.

Page 35.

Q25. Describe design details for bolt and pin.

Page 37.

Q26. Sketch equal leg fillet weld.

Page 39.

Q27. What is nominal tensile strength for E41XX electrode.

Page 40+41

Q28. How will you assess the strength of a weld group?

Q29. Write down the fabrication procedures.

Page 42.

Q30. Explain bolting.

Page 44

Q31. What is compression member?

Page 45+46

Q32. Write down the erection procedures.

Page 48

Q33. Draw the diagram for deviation in length vertical section and deviation in height vertical section.

Page 49.

Q34. What are suggested limits on calculated vertical deflections of beams?

Page 50 to 52

Q35. Explain the followings.

- (a) Timber quality (b) Change of grade or durability (c) Treated timber. (d) Deformation (e) Moisture contents (f) Basic working stress (g) Permissible stress.

Page 53

Q36. Explain the basic properties of structural timber.

Page 56

Q37. Explain load sharing.

Page 58.

Q38. Explain beam design procedures.

Q39. Explain stability factor

Q40. Allowable nominal bending stress.

## Study **CE115 Estimation & Specification**

CE 115 Part 2---- Civil Engg Part 8—Page 1 to 33

(R781)

[http://www.filefactory.com/file/5nmrpczy39jh/n/Civil\\_Engg\\_Part\\_8\\_pdf](http://www.filefactory.com/file/5nmrpczy39jh/n/Civil_Engg_Part_8_pdf)

Page	Contents	Unit Code
1-100	Specification, Estimating	Civil Engineering

together with audio support files and do the following exercises.

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### **Civil Engg Part 8**

Slide 2

Q1.What are the rates of cost for joinery?

Slide 8

Q2. What are the rates of cost for plumbing and engineering installations?

Slide 12

Q3. What are the rates of cost for electrical installations?

Slide 14

Q4. What are the rates of cost for plaster work, ceiling and floor finishes?

Slide 19

Q5. What are the rates of cost for glazing?

Slide 21

Q6. What are the rates of cost for painting and decorating?

Slide 23

Q7. What are the rates of cost for drainage?

Slide 25.

Q8.Explain pro-rata rates?

Slide 27 to 33.

Q9.Explain incentive scheme.

## **EE104 Electrical Equipments Safety Protection**

Lesson 1

[http://www.filefactory.com/file/3ejlfhf2stmv/n/EE104\\_Power\\_Points\\_zip](http://www.filefactory.com/file/3ejlfhf2stmv/n/EE104_Power_Points_zip)

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### **Test & Assessment**

Study all lessons in EE104+EE105+EE106+EE107 and EE108 and sit the test for EE106+EE108 to get the points for all those units.

## **EE105 Electrical Installation Design**

### **EE107 Electrical Equipments**

Lesson 1   Lesson 2   Lesson 3   Lesson 4

[http://www.filefactory.com/file/dcwml1t04i9/n/EE105\\_Power\\_Point\\_Part\\_1\\_zip](http://www.filefactory.com/file/dcwml1t04i9/n/EE105_Power_Point_Part_1_zip)

[http://www.filefactory.com/file/e3l7geh07mf/n/EE105\\_Power\\_Point\\_Part\\_2\\_zip](http://www.filefactory.com/file/e3l7geh07mf/n/EE105_Power_Point_Part_2_zip)

[http://www.filefactory.com/file/4xw79373rh9z/n/EE105\\_Power\\_Point\\_Part\\_3\\_zip](http://www.filefactory.com/file/4xw79373rh9z/n/EE105_Power_Point_Part_3_zip)

[http://www.filefactory.com/file/5w187rioma8t/n/EE105\\_Power\\_Point\\_Part\\_4\\_zip](http://www.filefactory.com/file/5w187rioma8t/n/EE105_Power_Point_Part_4_zip)

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### **Test & Assessment**

Study all lessons in EE104+EE105+EE106+EE107 and EE108 and sit the test for EE106+EE108 to get the points for all those units.

## EE106 Advanced Electrical Wiring

## EE108 Electrical Fault Finding

Lesson 1   Lesson 2   Lesson 3   Lesson 4

[http://www.filefactory.com/file/673wgxltzwm5/n/EE106\\_EE108\\_Power\\_Points\\_Part\\_1\\_zip](http://www.filefactory.com/file/673wgxltzwm5/n/EE106_EE108_Power_Points_Part_1_zip)

[http://www.filefactory.com/file/4gfw3r5xgs1b/n/EE106\\_EE108\\_Power\\_Points\\_Part\\_2\\_zip](http://www.filefactory.com/file/4gfw3r5xgs1b/n/EE106_EE108_Power_Points_Part_2_zip)

[http://www.filefactory.com/file/7k59m5zbsp45/n/EE106\\_EE108\\_Power\\_Points\\_Part\\_3\\_zip](http://www.filefactory.com/file/7k59m5zbsp45/n/EE106_EE108_Power_Points_Part_3_zip)

[http://www.filefactory.com/file/3zpvx7hrabyd/n/EE106\\_EE108\\_Power\\_Points\\_Part\\_4\\_zip](http://www.filefactory.com/file/3zpvx7hrabyd/n/EE106_EE108_Power_Points_Part_4_zip)

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## Test & Assessment

<http://www.classroomclipboard.com/503511/Home/Test/334df2651a9440aa8fe25532f0e3d7c5#/InitializeTest.xaml>

Type your name Put the following access code

NY78T

## **ME102 Part 1**

[http://www.filefactory.com/file/7avs422jp8vt/n/ME102\\_Part\\_1\\_zip](http://www.filefactory.com/file/7avs422jp8vt/n/ME102_Part_1_zip)

## **ME102 Part 2**

[http://www.filefactory.com/file/34zh8lrmfj5f/n/ME102\\_Part\\_2\\_zip](http://www.filefactory.com/file/34zh8lrmfj5f/n/ME102_Part_2_zip)

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Study the notes in the YOC-ME102 folder & do the following exercises

Slide 1

Q1. What is thermodynamics system?

Slide 2+3

Q2. Explain the followings

(a) Property (b) Pressure (c) temperature (c) Internal Energy

Slide 4

Q3. Explain the followings

(a) Phase (b) Mixed phase (c) Saturated state (d) Superheated vapour

Slide 5

Q4. Describe the followings

(a) Adiabatic (b) Isothermal (c) Isobaric (d) Isochoric (d) Isentropic (e) Isenthalpic

Slide 6+7

Q5. Write the equation for ideal gas.

Slide 8

Q6. Write the gas equation.

Slide 9

Q7. Write the equation for (a) Constant volume (b) Constant pressure (c) Constant temperature.

Slide 10

Q8. Sketch the Pressure –Volume graphs for

(a) Adiabatic (b) Isothermal (c) Isobaric (d) Isochoric (d) Isentropic (e) Isenthalpic

Slide 11

Q9. Express Van der Waals gas equation of state for gas

Slide 12

Q10. Sketch temperature-enthalpy diagram for Ice, water, Water+ vapour , Vapour

Slide 14.

Q11. Write the equations to calculate steam properties in the mixed region.

Slide 15.

Q12. Write the heat, volume, density of steam equations.

Slide 16

Q13. Self ignition would occur in the engine using certain brand of petrol if the temperature due to compression reached 350 degree C. Calculate the highest ratio of compression that may be used to avoid pre-ignition if the law of compression is.

Slide 18

Q14. Calculate the density of Ethane at 171 bar and 458 deg K , assume for Ethane

$T_e = 305\text{K}$   $P_e = 48.80\text{ bar}$   $R = 319.3\text{ J / Kg K}$  assuming it behaves as a perfect gas.

Slide 21

Q16. Determine the pressure of water vapour at 300 Deg C , if it's specific volume is  $0.2579\text{ m}^3/\text{kg}$  using the following methods.

(a) Ideal gas equation (b) Van der Waals equation.

## ME 334 Airconditioning & Refrigeration

ME 334 Part 1

[http://www.filefactory.com/file/2xyltwkhczer/n/ME\\_334\\_Part\\_1\\_zip](http://www.filefactory.com/file/2xyltwkhczer/n/ME_334_Part_1_zip)

ME 334 Part 2

[http://www.filefactory.com/file/43pa4pdzxmyd/n/ME\\_334\\_Part\\_2\\_zip](http://www.filefactory.com/file/43pa4pdzxmyd/n/ME_334_Part_2_zip)

ME 334 Part 3

[http://www.filefactory.com/file/69ulgadwuu9p/n/ME\\_334\\_Part\\_3\\_zip](http://www.filefactory.com/file/69ulgadwuu9p/n/ME_334_Part_3_zip)

ME 334 Part 4

[http://www.filefactory.com/file/2h9b7k5lcbeh/n/ME\\_334\\_Part\\_4\\_zip](http://www.filefactory.com/file/2h9b7k5lcbeh/n/ME_334_Part_4_zip)

ME 334 Part 5

[http://www.filefactory.com/file/2n6lgqzqa2tz/n/ME\\_334\\_Part\\_5\\_zip](http://www.filefactory.com/file/2n6lgqzqa2tz/n/ME_334_Part_5_zip)

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### WEEK 18-ME 334 Airconditioning and Refrigeration

Study ME 334 part 1 & do the following exercises.

Listen to the audio explanation and diagram on the slides and answer the questions. You can write in English or Myanmar

Slide 1

Q1.Sketch & explain the function of condenser.

Slide 2

Q2.what is evaporator?

Slide 4 to 6

Q3.Sketch and explain the function of compressor.

Slide 8+9

Q4.Sketch the four strokes operation of compressor.

Slide 10 to 12

Q5. Sketch the complete refrigeration pipe line circuit of compressor, evaporator, condenser and explain the operation.

Study ME 334 part 2 & do the following exercises.

Listen to the audio explanation and diagram on the slides and answer the questions. You can write in English or Myanmar

Slide 18 to 20

Q6. Sketch the connection of pressure gauge and refrigerant container to charge the refrigerant into refrigeration system

Study ME 334 part 3 & do the following exercises.

Listen to the audio explanation and diagram on the slides and answer the questions. You can write in English or Myanmar

Slide 1 to 7

Q7. Explain refrigerant charging procedure with necessary sketches.

Slide 8

Q8. Sketch the diagram of thermostat and electrical circuit diagram of compressor motor.

Slide 9+10

Q9. Sketch the electrical circuit diagram for compressor motor power supply system.

Slide 13 to 15

Q10. Sketch electrical circuit diagram containing step down transformer, thermostat and compressor motor of refrigerator compressor motor power supply system.

Slide 16 to 20

Q11. Explain the operation principle of compressor.

Study ME 334 part 4 & do the following exercises.

Listen to the audio explanation and diagram on the slides and answer the questions. You can write in English or Myanmar

Slide 1

Q12. Sketch the cross sectional view of compressor.

Slide 2

Q13. Sketch the refrigeration circuit connection of compressor, evaporator and condenser.

Slide 3 to 6

Q14. Explain the operation of TEV (Thermostatic expansion Valve or Refrigerant Control Valve) with refrigerant control.

Slide 7.

Q15. Sketch installation diagram of refrigerator.

Slide 8

Q16. Sketch air ventilator and air duct.

Slide 9+10

Q17. How do you understand humidity?

Slide 12 to 14

Q18. What are the factors influencing comfort.

Slide 15

Q19. Sketch the arrangement of air distribution in a house.

Slide 16.

Q20. Sketch air duct installation diagram.

Slide 17+18

Q21. Sketch electrical circuit diagram of blower fan.

Slide 19+20

Q22. Sketch the various arrangements of air distribution ducts.

**Study ME 334 part 5 & do the following exercises.**

**Listen to the audio explanation and diagram on the slides and answer the questions. You can write in English or Myanmar**

Slide 1+2+4+5+8

Q23. Sketch the installation diagram of air ducts.

Slide 6+7

Q24. Provide four sketches of air diffusers.

Slide 9+10+12

Q25. Explain the split type air conditioner with necessary sketches.

Slide 11

Q26. Explain window type air conditioner with necessary sketch.

Slide 13+14

Q27. Explain air handler unit with refrigerant pipe.

Slide 16+17.

Q28. Sketch the complete refrigerant pipe line containing evaporator, compressor, condenser and explain the operation.

Slide 18+19

Q29. Sketch air distribution system for multistorey building

Q30. Sketch indoor and out door units of an air handler and label the components.

**ME 301 Applied Mathematics**

**Applied Mathematics**

[http://www.filefactory.com/file/51a4r5vh9ecv/n/ME\\_301\\_Applied-mathematics\\_pdf](http://www.filefactory.com/file/51a4r5vh9ecv/n/ME_301_Applied-mathematics_pdf)

**Dip/Adv Dip in Mechanical Engineering**

**ME 103 Engineering Mechanics**

**Engineering Mechanics**

[http://www.filefactory.com/file/63sqtnrpf55/n/ME\\_103\\_Engineering\\_Mechanics\\_zip](http://www.filefactory.com/file/63sqtnrpf55/n/ME_103_Engineering_Mechanics_zip)

Password--- iqytechnicalcollege

Folder		BAE 403 Engineering Mechanics		
File				
		<p><b><u>Instruction</u></b>          Study the notes, calculate the example problems then do the exercises numbers as indicated</p>		
File name	Chapter	Page		Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Chap 1. pdf		All		Stress Example 1.1, 1.2, 1.3
Chap 1 slide.pdf		All		Stress lectures
Chap 2.pdf		All		Strain All examples
Chap 2 slide.pdf		All		Strain lessons
Chap 3.pdf		All		Mechanical properties of materials
Chap 3 slide.pdf		All		Mechanical properties of materials
Chap 4.pdf		All		Axial members
Chap 4 slide.pdf		All		Axial members

Chap 5.pdf			All		Torsion of shaft
Chap 5 slide.pdf			All		Torsion of shaft
Chap 6.pdf			All		Symmetric bending of beams
Chap 6 slide.pdf			All		Symmetric bending of beams
Chap 7.pdf			All		Deflection of symmetric beams
Chap 7 slide.pdf			All		Deflection of symmetric beams
Chap 8.pdf			All		Stress transformation
Chap 8 slide.pdf			All		Stress transformation
Chap 9.pdf			All		Strain transformation
Chap 9 slide.pdf			All		Strain transformation
Chap 10.pdf			All		Design and failure
Chap 10 slide.pdf			All		Design and failure
Chap 11.pdf			All		Stability of columns
Chap 11 slide.pdf			All		Stability of columns
<b>Exercise</b>	Q186	to	251		of Assignment (14)

Exercise

[http://www.filefactory.com/file/5glp28uzkyuz/n/B\\_App\\_Eng\\_Electrical\\_Exercise\\_2-A\\_pdf](http://www.filefactory.com/file/5glp28uzkyuz/n/B_App_Eng_Electrical_Exercise_2-A_pdf)

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### **EE308 Sustainability (Grid Connected PV Inverter)**

[EE308 Part 1](#)   [EE308 Part 2](#)   [EE308 Part 3](#)

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### **Test & Assessment**

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[http://www.filefactory.com/file/6uye10nst3ad/n/K035\\_Test\\_pdf](http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf)

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

**[iqytechnicalcollege@gmail.com](mailto:iqytechnicalcollege@gmail.com)**

# Degree Study

## Option 1 – Bachelor of Engineering (Civil+ Building Services)

### Do Study Stage 4A+Stage 4B+Stage 5

#### Stage 4A Lectures

ME201 Part 1

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ME201 Part 2

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ME201 Part 3

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ME202 Part 3

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ME204

[http://www.filefactory.com/file/343m93h33f13/n/ME204\\_zip](http://www.filefactory.com/file/343m93h33f13/n/ME204_zip)

ME 206 Part 1

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ME 206 Part 2

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ME 206 Part 3

[http://www.filefactory.com/file/77z3wbl5njbv/n/ME\\_206\\_Part\\_3\\_zip](http://www.filefactory.com/file/77z3wbl5njbv/n/ME_206_Part_3_zip)

## Stage 4A Exercises

### ME 201 Introduction to Fluid Mechanics ( Needs to do)

#### **Wk 1- ME 201 Introduction to Fluid Mechanics Part 1**

Study the notes in ME201 Part 1 folder and do the following exercises.

Slide 1

Q1. Describe the nature of fluid.

Slide 2

Q2. Write continuum equation of fluid.

Slide 3

Q3. What are the properties of fluids

Q4. What is density?

Slide 5

Q5. What is viscosity?

Slide 6 to 8

Q6. Write the equation for viscosity.

Slide 9 to 11

Q7. Explain surface tension & write the equation.

Slide 12

Q8. What is compressibility?

Slide 13.

Q9. Outline the broad classification of fluid mechanic.

Slide 14.

Q10. Explain fluid statistics.

Slide 15 to 17

Q11. Write the equation for pressure.

Slide 18

Q12. Show pressure variation in the direction of gravity.

Slide 19

Q13. Define the followings.

(a) Pressure (b) Head

Slide 20

Q14. Explain measurement of pressure.

Study ME202 Part 2 and do the following exercises.

Slide 1+2

Q13. Sketch the resultant force and moment acting on airfoil.

Slide 3

Q14. Sketch the graph of coefficient vs attack angle.

Slide 4

Q15. Sketch the rotation and distortion of fluid element.

Slide 5 to 7

Q16. Sketch

(a) Vortex sheet on camber line (b) Vortex sheet on chord line (c) Formation of wing vortex

Slide 8+9

Q17. Write the equation for inviscid compressible flow.

Slide 10

Q18. Write one dimensional flow equation.

Slide 11 to 14

Q19. Write the following equations

(a) Inviscid momentum equation (b) Energy equation (c) Speed of sound (d) Stagnation pressure and stagnation density with stagnation temperature.

Slide 15 to 17

Q20.

A normal shock wave is formed in air where upstream Mach number is 2 and upstream temperature, pressure and density are 300 K, 1 atm (i.e., 1 atmospheric pressure, which is approximately  $1.01 \times 10^5 \text{ N/m}^2$ ) and  $1.2 \text{ kg/m}^3$  respectively. Calculate Mach number, velocity, static temperature, static pressure, stagnation temperature and stagnation pressure downstream of the shock. Assume  $\gamma = 1.4$ .

Slide 18 to 20

Q21. Write the equation for quasi one dimensional flow; nozzle and diffuser flow.

Slide 21

Q22. What the M values for the followings

(a) Subsonic flow (b) Supersonic flow (c) Sonic flow.

Study ME202 Part 3 and do the following exercises.

Slide 1+2

Q23.

A supersonic flow at Mach number=2, temperature=300K, pressure=1atm and density= $1.2\text{kg/m}^3$  approaches a compression corner. An attached oblique shock with wave angle= $45^\circ$  is formed at the corner. Find the normal Mach numbers upstream and downstream of the shock. Also find  $M_2, P_2, P_{02}$ . Assume  $\gamma=1.4$ .

Slide 3

Q24.Explain the fundamental of viscous flow.

Slide 4 to 11

Q25.Write the equation for two dimensional poiseuille flow.

Slide 13.

Q26.Write the equation for density of liquid.

### Wk 3-ME 204 Engineering Fluid Mechanics

±

#### ME 301 Fluid Dynamics ( Needs to do)

Study ME 301 folder & do the exercises

Slide 1

Q1. What kind of forces are acting on fluid particles?

Slide 2

Q2.Write the equation for compressible flow.

Slide 3

Q3. Express Navier Stokes equation and energy equation.

Slide 4

Q4.Write the equation for dissipation function.

Slide 5

Q5. Write the equation for incompressible flow.

Slide 6 to 8

Q6.Explain turbulent flow with diagram and express the graphs for instantaneous and average velocities.

Slide 9

Q7.Explain inviscid flow

Slide 10.

## Q8.Explain boundary layer

### ME 206 Introduction to Turbo Machinery ( Needs to do)

#### ME 206 Introduction to Turbo Machinery

Study the notes in ME 206 Part 1 Folder & do the following exercises.

Slide 1

Q1.Explain the basic mechanism of operating the turbine.

Slide 3

Q2.What are the components of turbine?

Slide 4 to 7

Q3.Sketch the simple turbine operation.

Slide 8

Q4.Explain meridional view of turbine.

Slide 11+12

Q5.Express the velocity triangle for aircraft landing.

Slide 13 to 16

Q6.Explain velocity triangles in turbo machinery.

Slide 17+18

Q7.Write the equations related to velocity triangles in turbo machinery.

Slide 20 to 22

Q8.Sketch the wind turbine & indicate the components.

Study the notes in ME 206 Part 2 Folder & do the following exercises.

Slide 1+2

Q9.Describe the forces acting on wind turbine blades.

Slide 3+4

Q10.explain aerofoil operation and testing procedure.

Slide 5 to 8

Q11.A wind turbine is designed to work at a condition with a wind speed of 10m/s and an air density of  $1.22 \text{ kg/ m}^3$  . The turbine has a blades with a NACA 0012 profile and is rotating at one revolution per second. The blade chord length is 0.5 m . Taking the design point at 85% maximum lift condition and ignoring the drag on the aerofoil estimate the power output per unit blade span at a radius of 6 m for each blade.

Slide 11.

Q12.Describe wind turbine power control procedure.

Slide 12

Q13.Explain axial flow machine.

Slide 13 to 16

Q14.Explain radial and centrifugal flow machines.

Slide 17+18

Q15.Sketch velocity vector diagrams for stator and rotor of turbine.

Slide 19

Q16.Construct the cascade view of impeller.

Slide 20

Q17.Sketch the velocity diagram of impeller.

Slide 21 to 23

Q18. Write the equation for hydraulic turbine & explain its operation.

Study the notes in ME 206 Part 3 Folder & do the following exercises.

Slide 1

Q19. State the common design choice for constant axial velocity.

Slide 5+6

Q20. Explain the operation of turbo machines & system.

Slide 8

Q21. Sketch Enthalpy-Entropy diagram for turbine.

Slide 9+10

Q22. Explain dimensionless parameters for turbine machine.

Slide 11

Q23. Sketch the combined inlet & exit velocity diagrams of turbine.

Slide 12+13

Q24. Given a turbine blade row with constant axial velocity of 150 m/s at 5000 rpm on a mean radius of 0.7 m and an absolute flow angle at exit from the stator of 70 degree. The turbine operates with axial leaving flow and is a repeating stage. Calculate the flow coefficient, stage loading coefficient and reaction.

Slide 14

Q25. Write the equation to calculate the power coefficient of wind turbine.

Slide 15

Q26. Calculate the power output of the device at 10 rpm in a 10 m/s wind given that the turbine is 80 m in diameter and the density of air can be taken as  $1.15 \text{ kg/m}^3$ .

Slide 16.

Q27. Write the equations to calculate the coefficients of hydraulic machines.

Slide 18

Q28. Write the equations to calculate the specific speed of hydraulic turbine.

Slide 19 to 21.

Q29. Explain pelton wheel turbine.

Slide 22

Q30. Explain analysis approach of pelton wheel turbine.

## Stage 4B+ 5 Lectures + Exercises

Bachelor of Engineering (Building Services)+Advanced Diploma of Civil Engineering Study Guide

[http://www.filefactory.com/file/6dg5b0oh3uab/n/B\\_App\\_Eng\\_Building\\_Service\\_Adv\\_Dip\\_Civil\\_Engg\\_Study\\_Guide\\_pdf](http://www.filefactory.com/file/6dg5b0oh3uab/n/B_App_Eng_Building_Service_Adv_Dip_Civil_Engg_Study_Guide_pdf)

## Exercises

See the exercises number & find the questions with those numbers from the documents in the following links

[http://www.filefactory.com/file/6j96c0aldv1d/n/B\\_App\\_Eng\\_Electrical\\_Exercises\\_Part\\_1\\_pdf](http://www.filefactory.com/file/6j96c0aldv1d/n/B_App_Eng_Electrical_Exercises_Part_1_pdf)

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## Option 2 – Bachelor of Engineering (Civil)

### Only do Stage 5

#### Stage 5 Lectures + Exercises

Bachelor of Engineering (Building Services)+Advanced Diploma of Civil Engineering Study Guide

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## Additional Advanced Civil Engineering

### Bachelor of Engineering (Civil)/ Graduate Diploma in Engineering Practice (Civil) E-Learning Lectures

There will be test for each subject. The test question will be sent.

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