**Punjab Technical University**

**• Under Graduate Programme**

**• For Batch 2016 & Onwards**

**Year**

**Credit**

1st Year

50

2nd Year

55

3rd Year

55

4th Year

45

Total Credits

205

**Physics Group B.Tech. (1st semester) Contact Hours: 32**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Credits**

**L**

**T**

**P**

**Internal**

**External**

**Total**

BTAM-101

Engg. Mathematics-I

4

1

-

40

60

100

5

BTPH-101

Engg. Physics

3

1

-

40

60

100

4

BTHU-101

Communicative

English

3

-

-

40

60

100

3

BTEE-101

Basic Electrical & Electronics Engg.

4

1

-

40

60

100

5

HVPE-101

Human Values and Professional Ethics

3

-

-

40

60

100

3

BTMP-101

Manufacturing Practices

-

-

6

60

40

100

3

BTPH-102

Engg. Physics Lab

-

-

2

30

20

50

1

BTHU-102

Communicative

English Lab

-

-

2

30

20

50

1

BTEE-102

Basic Electrical & Electronics Engg.Lab

-

-

2

30

20

50

1

Total

5 Theory Courses + 4 Laboratory Courses

17

3

12

350

400

750

23

**Chemistry Group B.Tech. (1st semester) Contact Hours: 34**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Credits**

**L**

**T**

**P**

**Internal**

**External**

**Total**

BTAM-101

Engg. Mathematics-I

4

1

-

40

60

100

5

BTCH-101

Engg.

Chemistry

3

1

-

40

60

100

4

BTME-101

Elements of Mechanical Engg.

4

1

-

40

60

100

5

BTCS-101

Fundamentals of computer programming and IT

3

-

-

40

60

100

3

BTME-102

Engg.

Drawing

1

-

6

40

60

100

4

EVSC-101

Environmental Science

2

-

-

40

60

100

2

BTCH-102

Engg.

Chemistry Lab

-

-

2

30

20

50

1

BTCS-102

Fundamentals of computer programming and IT

-

-

4

30

20

50

2

BTME103

Engg. Computer graphics Lab

-

-

2

30

20

50

1

Total

6 Theory Courses + 3 Laboratory Courses

17

3

14

320

380

750

27

**Physics Group B.Tech. (2nd semester) Contact Hours: 32**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Credits**

**L**

**T**

**P**

**Internal**

**External**

**Total**

BTAM-102

Engg. Mathematics-II

4

1

-

40

60

100

5

BTPH-101

Engg. Physics

3

1

-

40

60

100

4

BTHU-101

Communicative

English

3

-

-

40

60

100

3

BTEE-101

Basic Electrical & Electronics Engg.

4

1

-

40

60

100

5

HVPE-101

Human Values and Professional Ethics

3

-

-

40

60

100

3

BTMP-101

Manufacturing Practices

-

-

6

60

40

100

3

BTPH-102

Engg. Physics Lab

-

-

2

30

20

50

1

BTHU-102

Communicative

English Lab

-

-

2

30

20

50

1

BTEE-102

Basic Electrical & Electronics Engg.Lab

-

-

2

30

20

50

1

Total

5 Theory Courses + 4 Laboratory Courses

17

3

12

350

400

750

23

**Chemistry Group B.Tech. (2nd semester) Contact Hours: 34**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Credits**

**L**

**T**

**P**

**Internal**

**External**

**Total**

BTAM-102

Engg. Mathematics-II

4

1

-

40

60

100

5

BTCH-101

Engg.

Chemistry

3

1

-

40

60

100

4

BTME-101

Elements of Mechanical Engg.

4

1

-

40

60

100

5

BTCS-101

Fundamentals of computer programming and IT

3

-

-

40

60

100

3

BTME-102

Engg.

Drawing

1

-

6

40

60

100

4

EVSC-101

Environmental Science

2

-

-

40

60

100

2

BTCH-102

Engg.

Chemistry Lab

-

-

2

30

20

50

1

BTCS-102

Fundamentals of computer programming and IT

-

-

4

30

20

50

2

BTME103

Engg. Computer graphics Lab

-

-

2

30

20

50

1

Total

6 Theory Courses + 3 Laboratory Courses

17

3

14

320

380

750

27

**Revised Scheme**

**Third Semester Contact Hours: 31 Hrs**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTAMN-301

Engineering Mathematics-III\*

3

1

-

40

60

100

4

BTCEN-301

Fluid Mechanics-I

3

1

-

40

60

100

4

BTCEN-302

Rock Mechanics & Engg. Geology

3

1

-

40

60

100

4

BTCEN-303

Strength of Materials

3

1

-

40

60

100

4

BTCEN-304

Surveying

3

1

-

40

60

100

4

BTCEN-305

Building Materials & Construction

3

0

-

40

60

100

3

BTCEN-306

Fluid Mechanics-I Lab

-

-

2

30

20

50

1

BTCEN-307

Strength of Materials Lab

-

-

2

30

20

50

1

BTCEN-308

Surveying Lab

-

-

3

30

20

50

2

BTCEN-309

Workshop Training of 4 weeks duration after 2nd semester Carpentry, Electrical, Plumbing, Masonry, CAD

CccCaCarpentry, Electrical, Plumbing, Masonry, CAD

-

-

-

30

20

50

1

**Total**

**18**

**05**

**07**

**360**

**440**

**800**

**28**

\* This subject shall be taught by the faculty of Applied Science Department

**Fourth Semester Contact Hours: 28 Hrs**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTCEN-401

Geomatics Engineering

3

1

-

40

60

100

4

BTCEN-402

Construction Machinery & Works Management

3

1

-

40

60

100

4

BTCEN-403

Design of Concrete Structures-I

4

1

-

40

60

100

5

BTCEN-404

Fluid Mechanics-II

3

1

-

40

60

100

4

BTCEN-405

Irrigation Engineering-I

3

1

-

40

60

100

4

BTCEN-406

Structural Analysis-I

3

1

-

40

60

100

4

BTCEN-407

Concrete Technology Lab

-

-

2

30

20

50

1

BTCEN-408

Structural Analysis Lab

-

-

2

30

20

50

1

BTCEN-409

General Fitness

100

-

100

**Total**

**19**

**06**

**04**

**400**

**400**

**800**

**27**

**Fifth Semester Contact Hours: 26 Hrs**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTCEN-501

Design of Steel Structures-I

3

1

-

40

60

100

4

BTCEN-502

Geotechnical Engineering-I

3

1

-

40

60

100

4

BTCEN-503

Structural Analysis-II

3

1

-

40

60

100

4

BTCEN-504

Transportation Engineering-I

3

1

-

40

60

100

4

BTCEN-505

Environmental Engineering-I

3

1

-

40

60

100

4

BTCEN-506

Transportation Engineering Lab

-

-

2

30

20

50

1

BTCEN-507

Environmental Engineering Lab

-

-

2

30

20

50

1

BTCEN-508

Computer Aided Structural Drawing-I

-

-

2

30

20

50

1

BTCEN-509

Survey Camp of 04 weeks duration after 4th Semester

100

50

150

4

**Total**

**15**

**05**

**06**

**390**

**410**

**800**

**27**

**Sixth Semester Contact Hours: 30 Hrs**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTCEN-601

Design of Concrete Structures-II

4

1

-

40

60

100

5

BTCEN-602

Elements of Earthquake Engineering

3

1

-

40

60

100

4

BTCEN-603

Geotechnical Engineering-II

4

1

-

40

60

100

5

**BTCEN-ZZZ**

**Open Elective\***

4

0

-

40

60

100

4

BTCEN-605

Professional Practice

3

1

-

40

60

100

4

BTCEN-606

Environmental Engineering-II

3

1

-

40

60

100

4

BTCEN-607

Geotechnical Engineering Lab

-

-

2

30

20

50

1

BTCEN-608

Computer Aided Structural Drawing-II

-

-

2

30

20

50

1

BTCEN-609

General Fitness

100

-

100

**Total**

**21**

**05**

**04**

**400**

**400**

**800**

**28**

**Seventh/Eighth Semester**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTCEN-701

• Software Training**\***

-

-

-

150

100

250

7

• Industrial Training

300

200

500

13

**Total**

**450**

**300**

**750**

**20**

**\*List of Software for Training any one may be learnt during Training Period**

**Any software that enhances professional capability in civil engineering practice a partial indicative list is mentioned below:**

**\*Changes in the credits are in ( ) form.**

1. GT STRUDAL 2. PRIMA VERA  
3. GEOTECH 4. ARCVIEW GIS  
5. GEO 5 6. GEO STUDIO PROF 2004  
7. AUTOCAD CIVIL 3D 8. MX ROAD  
9. GEOMATIC 10. STAAD PRO  
11. HDM-4 12. PLAXIS

13. Any other relevant software

**Seventh/Eighth Semester Contact Hours: 25 Hrs**

**Course Code**

**Course Name**

**Load Allocation**

**Marks Distribution**

**Total Marks**

**Credits**

**L**

**T**

**P**

**Internal Marks**

**External Marks**

BTCEN-801

Design of Steel Structures-II

3

1

-

40

60

100

4

BTCEN-802

Disaster Management

4

0

-

40

60

100

4

BTCEN-803

Irrigation Engineering-II

3

1

-

40

60

100

4

BTCEN-804

Transportation Engineering-II

3

1

-

40

60

100

4

BTCEN-XXX

Elective-I

3

0

-

40

60

100

3

BTCEN-YYY

Elective- II

3

0

-

40

60

100

3

BTCEN-805

Project

-

-

3

100

50

150

3

General Fitness

100

-

100

**Total**

**19**

**03**

**03**

**440**

**410**

**850**

**25**

\* Elective I and Elective II should not be from the same group

**List of Electives (7th /8th Semester):**

**• Structural Engineering**

BTCEN- 806 Dynamics of Structures

BTCEN- 807 Finite Element Methods

BTCEN- 808 Advanced Reinforced Concrete Design

BTCEN- 809 Pre-stressed Concrete

**• Geotechnical Engineering**

BTCEN- 810 Ground Improvement Techniques

BTCEN- 811 Soil Dynamics and Machine Foundation

BTCEN- 812 Earth and earth Retaining Structures

BTCEN- 813 Reinforced Earth and Geotextiles.

**• Environmental/ Irrigation Engineering**

BTCEN- 814 Advanced Environmental Engineering

BTCEN- 815 Environmental Impact Assessment

BTCEN- 816 Flood Control and River Engineering

BTCEN- 817 Hydrology and Dams

**• Infrastructure / Transportation Engineering**

BTCEN- 818 Pavement Design

BTCEN- 819 Traffic Engineering

BTCEN- 820 Bridge Engineering

BTCEN- 821 Infrastructure Developments and Management

**List of Open Electives (6th Semester)**

• Numerical Methods in Engineering

• Mechanical Vibrations

• Modeling & Simulation

• Optimization Techniques

• Electrical Auditing & Management