Weightage of Each Subject in Eamcet

Calculation of Marks :

25% of the Eamcet 2014 is calculated by the Intermediate or Class 12 marks and the remaining 75% is the marks that you get in Eamcet 2011 out of 160. Suppose you have got 580/600 (considering only groups) in Inter and 142/160 in Eamcet 2014, then your overall scores are calculated as below

(580/600)x(25) = 24.166 (In Inter - Known as Intermediate Aggregate)

(142/160)x(75) = 66.562 (In Eamcet - Known as Eamcet Aggregate)

Your Overall Aggregate Score will be 24.166 + 66.562 = 90.728 (Score on which ranking is given)

Engineering Stream

In Engineering, we have three subjects Mathematics, Physics and Chemistry generally for total of 160 marks and it is further divided into 80 marks in Mathematics, 40 each in Physics and Chemistry.

Weightage of Marks Chapter wise

Physics Chapter Wise in Next Page

Physics

1st Year

- **Measurements, Units And Dimensions:** We can expect 1-2 bits in this chapter. (Better to learn basics and leave the chapter for slow learners)

- **Elements of Vectors:** In this Chapter we can expect 2-3 bits, this chapter is the subset of the vectors in Mathematics so learning this chapter in Mathematics can be useful even in Physics
- **Kinematics:** The most easy topic - just a few formulae and any problem can be solved. Important models include not only but also Pulley-Rope Problems, Block Problems etc. In this chapter 2-3 Questions are expected.
- **Dynamics:** In this chapter, we can expect 3-4 questions. Concentrating on Kinetic Energy and Potential Energy, at least 1-2 problems can be answered.
- **Collisions:** A mark can easily be scored if the chapter is given a little attention. Topics like Co-efficient of Restitution are favorite topics for examiners.
- **Center of Mass (CM):** Another mark is for sure from this topic.
- **Friction:** 1-2 marks are expected off this topic. Slightly tricky. Easy if understood. Difficult otherwise.
- **Rotatory Motion:** 1-2 Questions expected. Even from the Engineering syllabus point of view, the primary topic in the 1st Year of Engineering is based on this topic. So be sure to get grip on Moment of Inertia Problems.
- **Gravitation:** Simple topic. Can expect 1 bit from this chapter. Formulae is everything
- **Simple Harmonic Motion (SHM):** Roughly has 3-4 Models in the entire syllabus. Concentrate on Fundamentals.
- **Elasticity:** 1 Bit is expected and it is based on basic formula that is within the reach of the syllabus.
- **Temperature And Thermal Expansion of Materials:** 1-2 bits are expected from this chapter.
- **Thermo Dynamics:** 1 bit is expected and will be based on a very basic formula in most

cases.

- **Transmission of Heat, Surface Tension:** 3 bits expected from these 2 chapters. Only basic formulae and can easily be scored.

2nd Year

- **Fluid Mechanics:** Problems are based on Bernoulli's theorem. 2 questions are expected from this chapter.
- **Wave Motion:** String Laws, Vibrating Strings, Harmonics etc., we can expect a theory bit for this chapter. So 2-3 questions from this unit.
- **Optics:** One of the most important topics next only to Current Electricity. 2-3 Questions are expected from this chapter.
- **Physical Optics:** 2-3 bits are expected. Topics like polarization phenomenon are important.
- **Magnetism:** 3-4 easy bits expected from this chapter.
- **Electronics:** One of the important topics. 3-4 bits expected from this chapter.
- **Current Electricity:** A large number of problems are expected from this chapter. 1 bit is for sure in computing the net resistance in a given circuit.
- **Thermo Electricity:** Seebeck Effect, Thomson's Effect etc., a bit is expected in theory of this chapter.
- **Electromagnetics:** 3-4 bits are expected from this chapter as a large variety of problems can be asked.
- **Atomic Physics:** 1 bit is expected from this chapter from topics like Nuclear Fusion, Nuclear Fission, Characteristic X-Ray Spectra, Moseley's Law and its importance etc.

- **Nuclear Physics:** 1 bit is for sure in this chapter. Mostly a theory bit.
- **Semi-Conductor Devices, Communication Systems:** 2-3 bits expected from these chapters. Can be general also.

Maths in Next Page

Maths

Algebra: In algebra, we may expect upto 13 marks from this topic.

1. **Functions - Type of Functions - Algebra of real valued functions :-** An Important Chapter, 1 or more bits expected from this topic

2. **Mathematical Induction and Applications :-** No bit is expected directly from this chapter. But its principles may be useful later.

3. **Permutations and Combinations - Linear and Circular Permutations - Combinations :-** 3-4 Questions Expected. Concentrate on standard models.
4. **Binomial Theorem - For a positive Integral Index - For any Rational Index - Applications - Binomial Co-efficients :-** 2 bits expected on binomial theorem. Also, this topic has its extension in Engineering. So worthy to concentrate on it.

5. **Partial Fractions :-** May not be directly but its applications are highly useful in complex arithmatic problem solving.
6. **Exponential and Logarithmic Series :-** 1 Question is expected from this topic.
7. **Quadratic Expressions, Equations and Inequations in one variable :-** 2-3 Problems expected from this topic. Problems involving calculation of number of +ve and -ve roots need much attention.

8. **Theory of Equations :-** 1-2 Problems expected from this topic.
9. **Matrices :-** One of the most easiest topic of all and 100% marks can be scored in this topic with little concentration.. 3-4 bits are expected from all the Matrices related topics.

10. **Complex Numbers and their Properties :-** A topic having great importance in AIEEE. 1-2 bits are expected from this

Trignonometry: A total of 12-17 bits are expected from all the topics in trigonometry (including applications)

1. **Trigonometric functions - Graphs -Periodicity :-** Can expect 1 bit from this topic
2. **Trigonometric Ratios of Compound Angles, Multiple and Sub Multiple Angles :-** 1-2 bits are expected

3. **Trigonometric Equations :-** 2 bits are expected from this topic

4. **Inverse Trigonometric Functions :-** 1-2 bits can be expected. More emphasis must be laid on basic formulae.
5. **Hyperbolic and Inverse Hyperbolic Functions :-** 2 bits are expected. Concentrate more on the formulae.
6. **Properties of Triangles :-** 1-2 bits can be expected.
7. **Heights and Distances (in 2-D plane) :-** 1 bit is for sure and it will be very easy if you know the basics.

Vector Algebra: 10-13 bits are expected in all from this whole topic

1. **Algebra of Vectors :-** We may expect 3-4 problems from the topics of Vector Equations, Plane Equations etc
2. **Scalar and Vector Product of two vectors and applications :-** 3-4 bits are expected on this topics including a theory bit.

3. **Scalar and Vector triple products - Scalar and Vector products of four vectors :-** 3 bits expected.

Probability: 12-15 Bits are expected from this topic. It is an interesting topic if understood. Can turn into a nightmare otherwise.

1. **Random Experiments - Sample Space - Events - Probability of an Event - Addition and Multiplication Theorems of probability - Baye's Theorem :-** 5-6 problems expected from these topics. Concentrate more on standard problems.

2. **Random Variables - Mean and Variance of a Random Variable - Binomial and Poisson Distributions :-** Theory bits are expected. In the Engineering point of view, these topics have a major role to play in scientific calculations and estimations. So read it for knowledge purpose.

Coordinate Geometry: A few formulae and their applications skill will fetch you 15 marks from this topic.

1. **Locus - Translation of Axes - Rotation of Axes :-** 1 bit is expected.
2. **Straight Line - Pair of Straight Lines - Circles - System of Circles - Conics - Parabola - Hyperbola - Equations of tangent - Normal and Polar at any point of these**

conics :- 5-6 bits are expected from all these topics. A little understanding of the fundamentals and good memory of the formulae helps you in gaining these 5 or 6 marks easily.

3. **Polar Coordinates :-** 1 bit is expected
4. **Coordinates in 3-D - Distance between two points in space - Section formula and Applications :-** We expect 2 bits from these topics
5. **Direction Cosines and Direction Ratios of a line - Angle between two lines :-** 1 bit is expected.

6. **Cartesian Equation of a Plane :-** 1 bit may be expected
7. **Sphere - Cartesian Equation - Center and Radius :-** 1 bit is expected.

Calculus: 11-14 marks are surely expected from this chapter.

1. **Functions - Limits - Continuity :-** 1 Mark Expected
2. **Differentiation - Methods of Differentiation :-** 1 or no bit is expected directly.
3. **Successive Differentiation - Leibnitz's theorem and applications :-** 1 bit may be expected and it can be a theory bit.

4. **Applications of Differentiation - Partial Differentiation including Euler's Theorem on homogeneous functions :-** 1 or no bit is expected.
5. **Integration - Methods of Integration :-** Heart of Calculus, 2-3 problems are expected on integrations and they can be a bit complex to solve. Concentrate on Integration Formulae.

6. **Definite Integrals and their Applications to areas - Reduction Formulae :-** 1-2 bits are expected.
7. **Numerical Integration - Trapezoidal and Simpson's Rules :-** 1-2 Problems may be asked
8. **Differential Equations :-** This is another important topic for future and we can expect 4-5 bits.

Chemistry in Next Page

Chemistry

Atomic Structure :- We can expect 1 or 2 bits in this chapter. In this chapter, one must be perfect in concepts like characteristics of Hydrogen spectrum, Debroglies Hypothesis, Uncertainty Principle and Wave Functions

Classification of Elements and Periodicity in Properties :- In this chapter 1 or 2 theory bits based on the concept of Periodic trends in physical and chemical properties of elements - Atomic Radii, Ionic Radii, Inert Gad Radii, Ionization Energy, Electron gain energy, Electronegativity - Metallic and Non-Metallic Nature, Nature of Oxides, Diagonal relationship.

Chemical Bonding and Molecular Structure :- This is very important chapter for the concept which could be applied else where. The main concepts here are Crystal Lattice Energy Calculation, Born Habers' Cycle, VESPR theory and Hydrogen Bonding.

Stoichiometry :- This is very problematic and important chapter. One needs to know the formulae thoroughly and need to perform calculations faster. 3-4 questions are expected. The main concepts are :

- Concept of Equivalent Weight
- Percentage composition of compounds and calculation of emperical and molecular formulae of compunds
- Balancing of Red-Ox reactions by ion electron method and oxidation number method
- Red-Ox reactions and electrode processes

States of Matter / **Gases :-** In this chapter, we expect 2-3 bits. Preference should be given to calculations. The main concepts are Ideal Gas Equations, Average, Root Mean Square and Most Probable Velocity

Solutions :- We may expect 1-2 bits from this chapter. Concentration must be more on topics like Raoult's Law, RLVP, Elevation of Boiling POint, Depression in freezing point, Osmosis,

Abnormal molar mass etc.

Electro Chemistry :- A very important chapter. 3-4 bits are expected. Some of the important topics in this chapter are.. Equivalent and Molar Conductance, Kohlrausch's Law, Electrolytes and Non-Electrolytes, Red-Ox reactions, Faraday's laws, Electrochemical series (very important), Nernest Equation.

Solid State :- 2-3 bits are expected from this topic. Seven Crystal Systems, Bragg's Equation, Calculation of Density, Packing of solids and voids, point and crystal defects, electrical and magnetic properties.

Chemical Kinetics :- In this topic we have two sub-topics - Chemical Equilibrium and Acids & Bases... Some of the important topics in chemical kinetics factors affecting reaction rates, Rate law, Units of rate constant, Order and molecularity..

- **Equilibrium :-** 1 bit is expected. It is better to concentrate on the law of mass action, activation energy, order and molecularity, relation between Kp and Kc, LeChatlier's Principle.

- **Acids & Bases :-** We can expect 2-3 bits. Some of the important topics are conjugate acid base pairs and their relative strengths, ionic product of water, buffer solutions, buffer capacity, solubility effect and common ion effect.

Thermodynamics :- 1-2 bits are expected from this topic. The Telugu Akademy text book has enough content for this topic. Go through line by line for better scoring. Some important topics are - calculating the enthalpy, exothermic and endothermic reactions, Cp and Cv relation, Hess' law and Gibbs Free Energy.

Surface Chemistry :- 2 marks can easily be answered if some attention is paid towards the below topics :

- Difference between Physical and Chemical Adsorption
- Catalysis
- Difference between True and Colloid Solutions
- Examples of some colloidal solutions

- Emulsions and Micelles
- +ve and -ve charged sols
- Hardy Schulze law.

Hydrogen And Its Compounds :- 1 or no bits expected from this topic. Going through the lines in text-book is enough

Alkali And Alkaline Earth Metals :- II A Group Elements. 1 or no theory bits expected.

p-Block Elements - Group 13 to 17 Elements - 3,4,5,6,7A Group Elements :- We may expect 5-6 bits for all these chapters. The following properties of each group needs some special focus

- Study perfectly all the equations because they can be asked in multiple concept questions indirectly
- Oxides, Halides and Hydrides formation reactions
- Preparations of their compounds

Group 18 Elements - Noble Gases :- 1 or no bits expected from this topic.

Transition Elements - d-Block Elements :- 2-3 bits expected. Some important aspects of this chapter are :

- General Characteristics
- Colors of visible radiation
- Magnetic Properties
- Alloys
- Inner Transition (Lanthenides) - Lanthenide Contraction
- Coordinate Compounds - IUPAC nomenclature theory - Bonding and EAN Rule
- Isomerism

General Principles of Metallurgy :- 1-2 bits are expected. Some important topics are -

concentration methods (froath floatation, liquation), reverboratary and blast furnaces, extraction of copper, zinc, iron, steel and silver

Environmental Chemistry :- 1 bit is expected. Go through the text-book line by line.

Basic Principles and Techniques in Organic Chemistry :- The basic chapter of Organic Chemistry. A bit is expected from IUPAC Nomenclature, substitution, addition, elimination and rearrangement reactions with examples, Inductive effect, Electromeric effect, Resonance and Hyperconjugation.

Hydrocarbons :- 2-3 bits from this chapter are expected. Important topics - General Properties of Alkanes, Cycloalkanes, Alkenes, Cis-Trans Isomerism etc.,

Alkynes & Aromatic Hydrocarbons :- 1-2 bits from this topic. Better to concentrate on Benzene, Resonance and Aromaticity, Chemical Properties, Aromatic Hydrocarbons - Introduction, IUPAC Nomenclature, addition reaction of - Hydrogen, halogens, Hydrogen Halides and Water.

Stereo Chemistry :- 1-2 bits are expected.

Halo Alkanes & Halo arenes, Alcohols / Phenols and Ethers, Aldehydes and Ketones, Carboxylic Acids, organic Compounds Containing Nitrogen - Nitrobenzene :- 8-9 bits in all are expected. Concentrate on formation reactions, reactions with other compounds.

Polymers & Biomolecules :- 3-4 bits are expected. Complete theory bits. Read Proteins, Vitamins, Carbohydrates, Nucleic Acids, DNA, RNA etc

Chemistry on Everyday Life :- 2 bits from this chapter. Text-Book Reading is sufficient.

Note: While all care has been taken in preparing this weightage material, some errors might have crept in. It is in the sole discretion of the reader that he goes through this material. Also, this has been prepared taking into consideration all the previous years' question papers. Multi-Conceptual bits can also be asked which have not been accounted here.