

Mathematics 2019-2020

Scheme of work/Term wise syllabus breakup

Class 11

| Term 1 | | | | |
|----------------------------|-------------|--|--|------|
| Strand | Unit | Topic | Objective | Time |
| Probability and Statistics | Probability | Probability of Combined Events <ul style="list-style-type: none"> Probability of single events Simple combined events, possibility diagrams and tree diagrams. Addition law of probability and mutually exclusive events. Multiplication Law of Probability and independent events. | <ul style="list-style-type: none"> Calculate the probability of a single event as either a fraction or a decimal [Probabilities should not be given as ratios. Problems could be set involving extracting information from tables or graphs. e.g. $P(\text{blue}) = 0.8$, find $P(\text{not blue})$] understand that the probability of an event occurring = $1 - \text{the probability of the event not occurring}$ understand relative frequency as an estimate of probability[e.g. use results of experiments with a spinner to estimate the probability of a given outcome e.g. use probability to estimate from a population] calculate the probability of simple combined events using possibility diagrams and tree diagrams where appropriate In possibility diagrams outcomes will be represented by points on a grid and in tree diagrams outcomes will be written at the end of branches and probabilities by the side of the branches. <p>D-2 7th ed.CH15 Ex15A,15B D-4 7th ed.CH 3 Ex 3A,3B,3C</p> | 3 |
| Geometry and Measurement | Loci | <ul style="list-style-type: none"> Introduction to Loci Locus theorems Intersection of Loci Further Loci | <ul style="list-style-type: none"> use the following loci and the method of intersecting loci for sets of points in two dimensions which are: <ul style="list-style-type: none"> ➤ at a given distance from a given point ➤ at a given distance from a given straight line ➤ equidistant from two given points | 2 |

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| | | | ➤ equidistant from two given intersecting straight lines D-4 7th ed. CH 8Ex 8A-8C | |
| | Transformation | Further Geometrical Transformation <ul style="list-style-type: none"> • Enlargement • Geometrical transformation and matrices. • Transformation matrix for enlargement • Inverse and combined transformations | <ul style="list-style-type: none"> • use the following transformations of the plane: reflection (M), rotation (R), translation (T), enlargement (E) and their combinations • identify and give precise descriptions of transformations connecting given figures • describe transformations using coordinates and matrices • If $M(a) = b$ and $R(b) = c$ the notation $RM(a) = c$ will be used. Invariants under these transformations may be assumed. • Singular matrices are excluded D-2 7th ed. CH 9 Ex 9A,9B,9C D-4 7th ed.CH 6 Ex 6A-6D | 2 |
| Number Theory and Arithmetic | Number Sequence | Number Sequence | <ul style="list-style-type: none"> • continue a given number sequence • recognise patterns in sequences and relationships between different sequences • Includes linear sequences, quadratic and cubic sequences, exponential sequences and simple combinations of these. • generalize sequences as simple algebraic statements • Including expressions for the nth term | 4 |
| | | Revision | | 3 |
| | | Total weeks | | 14 |
| Term 2 | | | | |
| Strand | Unit | Topic | Objective | Time |
| Geometry and Measurement | Vectors | <ul style="list-style-type: none"> • Vectors in two dimensions. • Addition of Vectors | <ul style="list-style-type: none"> • describe a translation by using a vector • add and subtract vectors • multiply a vector by a scalar | 3 |

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| | | <ul style="list-style-type: none"> • Vector subtraction • Scalar Multiples of a Vector. • Expression of a vector in terms of two other vectors. • Position Vectors • Application of Vectors | <ul style="list-style-type: none"> • calculate the magnitude of a vector • represent vectors by directed line segments • use the sum and difference of two vectors to express given vectors in terms of two coplanar vectors • use position vectors <p>D-4 7th ed.CH 7 Ex 7A-7D</p> | |
| | | <ul style="list-style-type: none"> • Revision | | 11 |
| | | Total Weeks | | 14 |