

Chapter 1: Algorithms: Chapter 1: Algorithms

D1 I can use and understand an algorithm given in words			
D2 I understand how flow charts can be used to describe algorithms			
D3 I can carry out a bubble sort			
D4 I can carry out a quick sort			
D5 I can carry out the three bin packing algorithms and understand their strengths and weaknesses			
D6 I can determine the order of an algorithm			

Chapter 2: Graphs and networks: Chapter 2: Graphs and networks

D7 I know how graphs and networks can be used to create mathematical models			
D8 I am familiar with basic terminology used in graph theory			
D9 I know some special types of graph			
D10 I understand how graphs and networks can be represented using matrices			
D11 I can use the planarity algorithm to determine whether or not a given graph is planar			

Chapter 3: Algorithms on graphs: Chapter 3: Algorithms on graphs

D12 I can use Kruskal's algorithm to find a minimum spanning tree			
D13 I can use Prim's algorithm on a network to find a minimum spanning tree			
D14 I can apply Prim's algorithm to a distance matrix			
D15 I can use Dijkstra's algorithm to find the shortest path between two vertices in a network			
D16 I can use Floyd's algorithm			

Chapter 4: Route inspection: Chapter 4: Route inspection

D17 I can use the order of nodes to determine whether a graph is Eulerian, semi-Eulerian or neither			
D18 I can use the route inspection (Chinese postman) algorithm to find the shortest route in a network			
D19 I can use the route inspection algorithm in networks with more than four odd nodes			

Chapter 5: The travelling salesman problem: Chapter 5: The travelling salesman problem

D20 I can explain the differences between the classical and practical problems			
D21 I can use a minimum spanning tree method to find an upper bound			
D22 I can use a minimum spanning tree method to find a lower bound			
D23 I can use the nearest neighbour algorithm to find an upper bound			

Chapter 6: Linear programming: Chapter 6: Linear programming

D24 I can formulate a problem as a linear programming problem			
D25 I can illustrate a two-variable linear programming problem graphically			
D26 I can locate the optimal point in a feasible region using the objective line (ruler) method			
D27 I can use the vertex testing method to locate the optimal point			
D28 I can determine solutions that need integer values			

Chapter 7: The simplex algorithm: Chapter 7: The simplex algorithm

D29 I can understand and use slack and surplus variables			
D30 I can solve maximising and minimising linear programming problems using simplex tableaux			
D31 I can use the simplex tableau method to solve linear programming problems requiring integer solutions			
D32 I can understand and use the two-stage simplex method for maximising and minimising problems which may include and constraints			
D33 I can understand and use the Big-M method for maximising and minimising problems which may include and constraints			

Chapter 8: Critical path analysis: Chapter 8: Critical path analysis

D34 I can model a project by an activity network using a precedence table			
D35 I can use dummy activities			
D36 I can identify and calculate early and late event times in activity networks			
D37 I can identify critical activities			
D38 I can calculate the total float of an activity			
D39 I can calculate and use Gantt (cascade) charts			
D40 I can construct resource histograms			
D41 I can construct scheduling diagrams			

Date:

Student Reflection:

Teacher Comment: