**A level Further Mathematics – Decision Mathematics 1 – Practice Papers 1-5**

**Practice Paper 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Taken from** | | **Topic** | **Number of marks** |
| 1 | IAL D1 Jun 17 | Q1 | First-fit, Quick Sort | **11** |
| 2 | GCE D2 Jun 15 | Q1 | Simplex algorithm | **7** |
| 3 | GCE D2 Jun 15 | Q3 | Travelling Salesperson and Prim’s algorithm | **12** |
| 4 | IAL D1 Jun 18 | Q5 | Critical Path Analysis | **14** |
| 5 | GCE D1 Jun 18 | Q7 | Linear Programming | **17** |
| 6 | GCE D1 Jun 17 | Q4 | Dijkstra and Route Inspection | **14**  (reduce part a from 6 to 5 marks) |
| **Total** | | | | **75** |

**Practice Paper 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Taken from** | | **Topic** | **Number of marks** |
| 1 | GCE D1 Jun 16 | Q2 | Critical Path Analysis | **5** |
| 2 | GCE D1 Jun 14 | Q3 | Route Inspection algorithm | **10** |
| 3 | IAL D1 Jan 17 | Q6 | Dijkstra’s algorithm | **9** |
| 4 | GCE D1 Jun 15 | Q5 | Kruskal and Prim’s algorithm | **10** |
| 5 | GCE D1 Jun 14 | Q6 | First fit and Quick Sort | **13** |
| 6 | IAL D1 Jan 17 | Q7 | Critical Path Analysis | **14** |
| 7 | GCE D1 Jun 16 | Q8 | Linear Programming | **14** |
| **Total** | | | | **75** |

**Practice Paper 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Taken from** | | **Topic** | **Number of marks** |
| 1 | GCE D2 Jun 17 | Q1 | Travelling Salesperson | **7** |
| 2 | GCE D1 Jun 14 | Q5 | Dijkstra’s algorithm | **9** |
| 3 | GCE D1 Jun 16 | Q5 | Applying a given algorithm | **7** |
| 4 | IAL D1 Jan 19 | Q4 | First-fit and Quick Sort | **14** |
| 5 | IAL D1 Jun 18 | Q3 | Graph theory and Prim’s algorithm | **8** |
| 6 | GCE D1 Jun 15 | Q7 | Critical Path Analysis | **13** |
| 7 | GCE D2 Jun 18 | Q5 | Simplex Algorithm | **17** |
| **Total** | | | | **75** |

**Practice Paper 4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Taken from** | | **Topic** | **Number of marks** |
| 1 | IAL D1 Jan 18 | Q6 | First-fit and Quick Sort | **13** |
| 2 | GCE D2 Jun 16 | Q1 | Travelling Salesperson | **10** |
| 3 | GCE D1 Jun 14 | Q7 | Critical Path Analysis | **14** |
| 4 | GCE D2 Jun 17 | Q5 | Simplex Algorithm | **13** |
| 5 | GCE D1 Jun 15 | Q6 | Linear Programming | **13** |
| 6 | IAL D1 Jan 19 | Q6 | Prim’s algorithm and Route Inspection | **12** |
| **Total** | | | | **75** |

**Practice Paper 5**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Taken from** | | **Topic** | **Number of marks** |
| 1 | GCE D2 Jun 14 | Q2 | Travelling Salesperson | **10** |
| 2 | IAL D1 Jan 18 | Q2 | Critical Path Analysis | **10** |
| 3 | GCE D1 Jun 16 | Q4 | Dijkstra and Prim’s algorithm | **12** |
| 4 | GCE D1 Jun 15 | Q4 | Route Inspection | **12** |
| 5 | GCE D2 Jun 14 | Q3 | Simplex Algorithm | **12** |
| 6 | IAL D1 Jan 17 | Q4 | First-fit and Bubble Sort | **11** |
| 7 | GCE D1 Jun 14 | Q8 | Linear Programming | **8** |
| **Total** | | | | **75** |