Zonal Informatics Olympiad, 2026

Solutions

1. Minimum lift time

   (a) $N = 4$, $C = 2$, $F = [1, 3, 4, 6]$
   Answer: 18

   (b) $N = 9$, $C = 3$, $F = [1, 2, 4, 4, 5, 7, 8, 9, 12]$
   Answer: 46

   (c) $N = 18$, $C = 4$, $F = [2, 3, 4, 5, 6, 8, 9, 11, 13, 14, 16, 17, 19, 21, 22, 25, 27, 30]$
   Answer: 152

2. Minimum number of switch presses

   (a) $N = 6$, $S =$ `111001`
   Answer: 3

   (b) $N = 10$, $S =$ `1011010111`
   Answer: 4

   (c) $N = 24$, $S =$ `011010101100011010110110`
   Answer: 10

3. Number of lists of preferred parking spots

   (a) $N = 4$, $A = [3, 1, 2, 4]$
   Answer: 8

   (b) $N = 8$, $A = [1, 2, 3, 4, 5, 6, 7, 8]$
   Answer: 40320

   (c) $N = 15$, $A = [4, 1, 2, 7, 3, 15, 5, 9, 6, 8, 11, 10, 13, 12, 14]$
   Answer: 60480

4. Number of shortest museum tours

   (a) $N = 7$, $P = [-1, 1, 1, 1, 2, 2, 4]$
   Answer: 8

   (b) $N = 11$, $P = [-1, 1, 2, 2, 3, 2, 2, 7, 6, 6, 1]$
   Answer: 36

   (c) $N = 21$, $P = [-1, 1, 1, 1, 2, 2, 2, 2, 3, 3, 4, 5, 5, 5, 9, 9, 9, 12, 15, 11, 20]$
   Answer: 4320

Marking

The question paper carries 80 marks, broken up into four questions of 20 marks each. Each question has three parts. *If you solve all three parts correctly, you get 20 marks for that question.* Otherwise, you get 5 marks for each part that you solve correctly.

Qualifying cutoff

Male students

- Std 12: 65
- Std 11: 65
- Std 10: 60
- Std 9: 55
- Std 8: 50
- Std 7 and below: 45

Female students

- Std 12: 60
- Std 11: 55
- Std 10: 50
- Std 9: 45
- Std 8: 40
- Std 7 and below: 35

Score distribution

Score	80	75	70	65	60	55	50	45	40
Number at or above this score	35	35	78	86	160	205	303	342	430

Score	35	30	25	20	15	10	5	0
Number at or above this score	492	574	593	625	648	663	668	671