Zonal Informatics Olympiad, 2008: *Answer sheet*

1. (a) 7 bit code for 78:   **1101001**

    (b) 9 bit code for 183:   **011101100**

    (c) Integer denoted by 1100110011:   **546**

    (d) Integer denoted by 1011010110:   **868**

2. (a) Minimum semesters needed: **7**

    (b) Minimum semesters needed: **6**

    (c) Minimum semesters needed: **5**

    (d) Minimum semesters needed: **8**

3. (a) No. of ways to hang signs: **41**

    (b) No. of ways to hang signs: **63**

    (c) No. of ways to hang signs: **41**

    (d) No. of ways to hang signs: **231**

4. (a) Trees inherited by Akhil: **127**

    (b) Trees inherited by Akhil: **214**

    (c) Trees inherited by Akhil: **116**

    (d) Trees inherited by Akhil: **157**