Computer Networks
Class task-22/06/2024

Consider your ID: AB-CDEFG-H, now solve the following 10 VLSM problems:

1. **Company Network**: Subnet a network 192.168.0.0/24 for departments:
   - Administration (A*50 hosts)   - Sales (B*25 hosts)   - Marketing (C*15 hosts)
   - IT (D*10 hosts)   - Guest (E*5 hosts)

2. **School Network**: Subnet AB.CD.0.0/16 for departments:
   - Faculty (100 hosts)   - Students (500 hosts)   - Library (50 hosts)
   - Labs (30 hosts)   - Administration (20 hosts)

3. **Hospital Network**: Subnet 172.16.0.0/20 for:
   - Emergency (AB*100 hosts)   - Pediatrics (CD*50 hosts)   - Surgery (EF*30 hosts)

4. **Small Office Network**: Subnet 192.168.1.0/24 for:
   - Management (ABC*10 hosts)   - Sales (DEF*8 hosts)   - Support (G*6 hosts)
   - Development (H*4 hosts)   - Testing (2 hosts)

5. **University Campus Network**: Subnet 172.20.0.0/16 for:
   - Engineering Faculty (500 hosts)   - Business School (300 hosts)
   - Arts and Humanities (200 hosts)   - Research Centers (100 hosts)
   - Administration (50 hosts)

6. **Retail Store Network**: Subnet 10.10.0.0/20 for:
   - Front Store (50 hosts)   - Back Office (30 hosts)   - Customer Service (20 hosts)
   - Inventory Management (10 hosts)   - POS Systems (5 hosts)

7. **Tech Startup Network**: Subnet 192.168.100.0/24 for:
   - Development (30 hosts)   - Marketing (20 hosts)
   - Sales (15 hosts)   - HR (10 hosts)
   - Management (5 hosts)

8. **Public Library Network**: Subnet 172.30.0.0/23 for:
   - Main Library (100 hosts)   - Children's Section (50 hosts)
   - Reference Section (30 hosts)   - Audio-Visual Section (20 hosts)
   - Administration (10 hosts)

These scenarios provide different contexts where VLSM can be applied to efficiently manage and allocate IP addresses based on specific departmental or functional requirements within each organization or environment.