Part-1-Using Nmap

1. Here the services and corresponding port numbers:

SERVICE	PORT
ssh	22
http	80
https	443
irc	6666

2. Yes, the target is running a web server.
   2(a) A webserver is running on port 80. It is visible on the following url:
   http://35.231.141.75:80
   Software: nginx
   Version Number # 1.10.3
3. I did not find any database on the server.
4. The operating System and Distribution target is running on:
   Device type: WAP|general purpose
   Running: Actiontec embedded, Linux 2.4.X|3.X, Microsoft Windows XP|7|2012
   OS CPE: cpe:/h:actiontec:mi424wr-gen3i cpe:/o:linux:linux_kernel cpe:/o:linux:linux_kernel:2.4.37 cpe:/o:linux:linux_kernel:3.2 cpe:/o:microsoft:windows_xp::sp3 cpe:/o:microsoft:windows_7 cpe:/o:microsoft:windows_server_2012
   OS details: Actiontec MI424WR-GEN3I WAP, DD-WRT v24-sp2 (Linux 2.4.37), Linux 3.2, Microsoft Windows XP SP3, Microsoft Windows XP SP3 or Windows 7 or Windows Server 2012
   Network Distance: 2 hops
   Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
5. Yes, there is a peculiar service on port 6666. I used the command:
   nmap -A -T4 35.231.141.75 6666
   and it identified that on port 6666 there is an unrecognized service running.
   Using the command nc 35.231.141.75 6666 > output a jpeg is created which has a swimming pool with people swimming and it has something fishy/peculiar in it. Hence, the port has some peculiar service running.
6. I used the following command to get remote access to the server:
   ssh root@35.231.141.75
   And entered ***toor*** as the password.

Part-2-Without using Nmap

7. Open port: 47808
   Target: Blackfoot Telephone Cooperative, Inc. (BTC-13)
8. Shodan showed the following figures:
   NETGEAR R8000: 5849
   NETGEAR 7000: 11630
   NETGEAR 6400: 474