1. The total RTT required to request for X objects, including opening a non-persistent TCP connection, is 2500 ms.

    a. Given, it requires 20ms to send a TCP request and 40ms to send HTTP Requests. Additionally, it requires the server 5ms to retrieve each object from the database. Identify the value of X? **[4]**

    b. Calculate the total time (in ms) required to view the whole page if each object requires 60 ms to download. **[2]**

2. From the below figure, PC-B visits abedu.ac.bd on 13th July at 5:30 AM and gets an RR of (abedu.ac.bd, 172.69.99.13,A,12) where the TTL is given in hours. On the next day, PC-A visits the same website. Given, each DNS lookup requires 45ms.

    Local DNS B does not know of Local DNS A.

    a. Find the total time required for PC-B to look up for the IP address. **[3]**

    b. Find the total time required for PC-A to look up for the IP address. **[4]**

    c. State the type of resource record returned by the AS server. **[2]**