Questions :

1. You have a file with permissions -rw-r--r--, and you run chmod +x file.sh. What happens?

Adds **execute** permission for all (user, group, others). Now the file is executable for all.

2. What is the difference between chmod 744 file.txt and chmod u=rwx,go=r file.txt?

Both give same result of granting permissions. Mentioning 744 is a numeric notation and other one is symbolic notation

3. What is the sticky bit, and when should you use it?

Sticky bit (+t) prevents users from deleting others' files in shared directories. Only the owner of a file can delete it, even if others have write access.

4. You are told to give the owner full access, group only execute, and others no permissions. What symbolic command achieves this?

chmod 701 filename

5. What is umask, and why is it important?

User mask(umask) defines default permission restrictions for new files/directories. It subtracts from default (666 for files, 777 for dirs).

6. If the umask is 022, what are the default permissions for a new file and a new directory?

New files: 666 - 022 = 644 → rw-r--r—

New directories: 777 - 022 = 755 → rwxr-xr-x

7. Why is umask often set to 002 in development environments but 027 or 077 in production?

In development, 002 is used for the collaboration in teams so 002 will allow group to read/write.

In production, 027/077 is used for the security and privacy of the project so 027 will allow to group read-only, others no access and 077 wiil allow only owner to have all access

8. useradd vs adduser

useradd -> Low-level, non-interactive. Needs options to create directory

adduser -> High-level, user-friendly script. Uses useradd internally.