**Chart, line chart

Description automatically generatedQ2**

**Chart, line chart

Description automatically generatedb.)**

**c.)**

|  |  |  |
| --- | --- | --- |
|  | **K = 25** | **K = 35** |
| **Resonant peak – Mr** | 11.3 dB | 13.2 dB |
| **Resonant frequency – Wr** | 5.59 rad/s (0.89 Hz) | 6.48 rad/s (1.03 Hz) |
| **Bandwidth - BW** | 8.16 rad/s (1.30 Hz) | 9.53 rad/s (1.51 Hz) |

**d.)**

**Chart, line chart

Description automatically generated**K = 25 is preferred as it has lower peak overshoot which means it likely that the damage to the system due to this peak overshoot is minimized or avoided.