**Module 3: Streamflow**

Student ID:

**Flow rate: Manning’s Formula:**

**Look at two channel cross-sections provided. Compute the wetted perimeter and cross-sectional slope. Assuming the Slope S is …, estimate the discharge.**

**Making Sense of Streamflow Data:**

**Create a hydrograph for the Ellen Brook catchment from X->Y.**

**Flood Frequency Analysis:**

**Fill in the table below:**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Maximum Discharge (m3/s), Q | Rank, “m” | Recurrence Interval, “R” |
| 28 Feb 1986 | 1410 |  |  |
| 4 Mar 1987 | 2890 |  |  |
| 22 Mar 1988 | 1850 |  |  |
| 03 Mar 1989 | 800 |  |  |
| 01 Feb 1990 | 1000 |  |  |
| 12 Apr 1991 | 692 |  |  |
| 04 Apr 1992 | 1350 |  |  |
| 02 May 1993 | 1200 |  |  |
| 16 Mar 1994 | 850 |  |  |
| 06 Jul 1995 | 2400 |  |  |
| 21 Feb 1996 | 890 |  |  |
| 30 Jan 1997 | 1480 |  |  |
| 16 Mar 1998 | 1500 |  |  |
| 21 Feb 1999 | 1300 |  |  |
| 12 May 2000 | 1700 |  |  |
| 08 Apr 2001 | 2200 |  |  |
| 01 Mar 2002 | 1830 |  |  |
| 08 Feb 2003 | 1120 |  |  |
| 12 Mar 2004 | 750 |  |  |
| 06 Mar 2005 | 1250 |  |  |

**Use the graph below to plot a graph of discharge (on the y-axis) versus recurrence interval (on the x-axis):**

A screenshot of a cell phone

Description automatically generated

**What are the probabilities that a 50 year flood and a 100 year flood will occur in any given year?**