Isfahan University of Technology (IUT)Department of Civil EngineeringErosion and Sediment Engineering1399-1400Term IIAssignment #4Bed-Suspended, Total LoadsDue: 28/02/1400

1 The students are asked to calculate the bed-load discharge using the methods proposed by Schoklitsch, Meyer-Peter et al., and Meyer-Peter and Müller, using the following data and the data from the samples obtained from Zayandeh-Roud, Then, find a software and compute the bed-load discharge. Compare the results of the software with your own results and comment on the software capabilities and faults.

D = 0.5 m ; $S_0 = 0.00144$; B = 21 m ; V = 1.0 m/s

2 Given the following data, compute the suspended load weight discharge using Brooks method.

 $q = 9 \text{ m}^3/\text{s/m}$; n = 0.02 ; R = D = 5 m ; S = 0.001 $d_{50} = 0.2 \text{ mm}$; a = 0.25 m ; $C_a = 0.0001$ by dry weight

3 Given the following data and the data from the samples obtained from Zayandeh-Roud, compute the Total load discharge using Einstein method.

$$Q = 55.5 \text{ m}^3/\text{s}$$
; $W = 41.0 \text{ m}$; $R = D = 2.0 \text{ m}$; $S = 0.000077$
 $V = 0.69 \text{ m/s}$