AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING
SESSIONAL TEST-2

Course:	B.Tech	Semester:	Vth
Session:	2017-18	Section:	CE-1 & CE-2
Subject:	Environmental Engineering 1	Sub. Code:	NCE-503
Max Marks:	50	Time:	2 hour

Note: All questions are compulsory. Assume the necessary data, if not given.

Section-A

1. Attempt all the parts. **(5x2=10)**

a) What are the functions of service reservoir?

b) Write any four advantages of RCC pipes over CI pipes?

c) Explain mass curve method used to determine storage capacity of balancing reservoir.

d) What are the requirements of hot water installation in buildings?

e) What do you understand by water hammer? Explain with neat sketch.

Section-B

2. Attempt all the parts. **(5x5=25)**

a) Draw neat sketch of the following:

(i) Spigot and Socket joint for CI pipes.

(ii) Expansion joint for CI pipes.

b) Explain with neat sketch as to how municipal water mains are connected to private building and house for giving water supply connections.

c) What do you understand by conservancy and water-carriage system? Also Give Comparison.

d) Illustrate with neat sketches the different types of layouts of pipe systems in distributing water. Also compare their merits and demerits.

e) Determine the hydraulic gradient in a 90 cm diameter old cast iron pipe carrying a discharge of 0.75cumec by using (a) Manning's formula, (b) Darcy-Weisbach formula and (c) by Hazen-William formula. Assume suitable any data not given.

Section-C

3. Attempt all the parts. **(7.5x2=15)**

a) Write a short note on followings.

1. Check Valve or Reflux Valve.
2. Runoff Coefficient (C).
3. Pipe fittings.

b) Calculate the head losses and the corrected flows in the various pipes of a distribution network shown in the figure below. The diameters and lengths of pipes are given against each pipe. Make use of Hardy-Cross method with William Hazen's formula.