Q : 1) When two identical centrifugal pumps are operating in series on a common rising main, then

A : The pressure in the main will be nearly doubled while the discharge will remain the same

B : The discharge will be nearly doubled, while the pressure remains the same

C : Discharge as well as the pressure in the rising main will be doubled

D : Discharge as well as the pressure in the rising main increases but not become double

Q : 2) A pumped storage plant is a

A : High head plant

B : Run-off river plant

C : Peak load plant

D : Base load plant

Q : 3) A turbine works at 20 m head and 500 rpm speed. Its 1 : 2 scale model is to be tested at a head of 20 m. It should have a rotational speed of nearly

A : 1000 rpm

B : 700 rpm

C : 500 rpm

D : 250 rpm

Q : 4) The correct sequence, in the direction of the flow of water for installations in a hydro- power plant is

A : Reservoir, surge tank, turbine, penstock

B : Reservoir, penstock, surge tank, turbine

C : Reservoir, penstock, turbine, surge tank

D : Reservoir, surge tank, penstock, turbine

Q : 5) Match List-I (Type of turbines) with List-II (Ranges of specific speeds in MKS unit) and select the correct answer.

List – I	List – II
A. Francis	1. 10 - 50
B. Kaplan	2. 35 - 60
C. Pelton with one jet	3. 60 - 300
D. Pelton with two jets	4. 300 - 1000

A : A - 3, B - 4, C - 2, D – 1

B : A - 4, B - 3, C - 2, D - 1

C : A - 3, B - 4, C - 1, D – 2

D : A - 4, B - 3, C - 1, D - 2

Q : 6) Two identical centrifugal pumps are operated in parallel so as to deliver into a common delivery pipe. Speed for both is also identical. At what total discharge (0) and total head (H) will the system operate as compared to discharge and head of each of the pumps operated singly?

A : Both total 0 and total H would increase, each approximately by 50%.

B : Total 0 would be approximately doubled, but H would remain the same.

C : Total H would be approximately doubled, but 0 would remain the same.

D : Total H would be doubled, but 0 would be approximately halved

Q : 7) Storage of water by impounding is required where

A : Plenty of water is available in the stream in all seasons.

B : Excess of suspended and dissolved matter are present in the water.

C : There is a large variation in quantity of the river flow from time to time.

D : The flow is uniform throughout the year but is insufficient.

Q : 8) Assertion (A): The inlet velocity triangle for a Pelton turbine is a straight line.

Reason (R): For a Pelton turbine, the vane angle at inlet is 1800

Q : 9) Consider the following statements:

1. Run-of-river plants can be located on any river.

2. Runaway speed of a turbine is generally 180% of normal speed.

3. Underground power stations are suited to areas susceptible to land slides.

4. Higher the specific speed, higher will be the discharge and head.

Which of these statements are correct?

A : 1 and 2

B : 2 and 3

C : 1 and 4

D : 2 and 4

Q : 10) Match List-l (Turbine) with List-ll (Specific speed) and select the correct answer:

List – I	List – II
A. Pelton	1. 25
B. Propeller	2. 75
C. Kaplan	3. 500
D. Francis	4. 800
	5. 900

A : A - 1, B - 4, C - 5, D – 2

B : A - 3, B - 4, C - 2, D - 5

C : A - 4, B - 1, C - 5, D – 3

D : A - 1, B - 5, C - 4, D - 2

Q : 11) The maximum permissible suction lift for centrifugal pump in practice (at sea level and at 30°C) is

A : 12 m

B : 10 m

C : 6 m

D : 3 m