Name :	
Roll No. :	A Annual WEAming and Excland
Invigilator's Signature :	

#### CS/BHM(OLD)/SEM-6/HM-608/2012

## 2012

# **ADVANCED ENGINEERING**

Time Allotted : 3 Hours

Full Marks: 70

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

## GROUP – A ( Multiple Choice Type Questions )

1. Choose the correct alternatives for any *ten* of the following :

 $10 \times 1 = 10$ 

- A device that accepts raw waste and by use of hydraulic rams and plungers reduces the volume of raw materials is called
  - a) pulping machine b) incinerator
  - c) compactor d) thrash chute.
- The R8 insulating value window which has two heat mirror films suspended and sealed between two panes of glass and all spaces between the panes are filled with gas is made of
  - a) double pane glass b) super glass
  - c) super smart glass d) triple pane glass.

CS/BHM(OLD)/SEM-6/HM-608/2012							
iii)	А	fire	extinguisher	using	halon replacement		
	extir	tinguishing agent can be used to extinguish					
	a)	A typ	be of fire	b)	<i>B</i> type of fibre		
	c)	C typ	be of fire	d)	A, B & C types of fire.		
iv)	Man	nometric head of a centrifugal pump is equal to					
	a)	suction head + delivery head					
	b) friction head loss in suction pipe + friction						
		loss in delivery pipe					
	c)	velocity energy in the delivery pipe					
	d)	d) none of these.					
v)	A pa	parameter that indicates whether or to what extent					
	water is acidic or basic is known as						
	a)	COD		b)	BOD		
	c)	DO		d)	pH.		
vi)	A se	soil pipe can handle any building drainage which					
	inclu	cludes					
	a)	water mixed with earth soil					
	b)	any drainage including human excreta					
	c)	) any drainage without human excreta					
	d)	none	of these.				
vii)	The	he devices which are used to stop the escape of foul					
	gases inside or outside house from a sewage line are						
	a)	sewa	ge ejector	b)	vent		
	c)	trap		d)	both (b) and (c).		
viii)	Secondary waste treatment is concerned with biologic						
	treatment.						
	a)	True		b)	False.		

# CS/BHM(OLD)/SEM-6/HM-608/2012

ix) A single acting reciprocating pump should not be fitted with air vessel.

- a) True b) False.
- x) One of the constituents of the acid rain is
  - a) arsenic b) mercury
  - c) sulphur dioxide d) chlorine.
- xi) Fluorescent lamps operated by
  - a) use of the filament
  - b) discharge of electrons through cathode
  - c) alternating current
  - d) all of these.

6454

#### GROUP – B

## ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$ 

- 2. State the working principle of a reciprocating pump.
- 3. State the working principle of different types of dish washing machines.
- 4. Write short notes on (i) Acid Rain, (ii) BOD.
- 5. Describe special sewage system for multiple basement level.
- 6. Show the procedure to calculate the water and sewage charges in a hotel by assuming your own conditions.

#### **GROUP - C**

#### (Long Answer Type Questions)

Answer any *three* of the following.  $3 \times 15 = 45$ 

 What do you understand by Hardness of Water ? Describe any method to remove temporary & permanent hardness of water. 3 + 12

3 [ Turn over

## CS/BHM(OLD)/SEM-6/HM-608/2012

8. What factors you will consider for the security system to be adopted in a five star deluxe hotel ?

 $2 \times 7\frac{1}{2}$ 

- 9. Write short notes on any *two* of the following :
  - a) Types of roofing and their maintenance
  - b) Swimming pool maintenance
  - c) Signage and objective of signage design.
- 10. Explain causes, effects and remedies against air pollution.
- 11. Discuss the economic factors in selecting a laundry alternative. Draw a layout of general space for laundry installation.
- 12. What are the different types of portable fire extinguishers ? State their functions and applicability.

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6454