BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: B.TECH.   SEMESTER: VII
BRANCH: CIVIL   SESSION: MO/2022

SUBJECT: CE420 AIR POLLUTION AND CONTROL

TIME: 2 HOURS   FULL MARKS: 25

INSTRUCTIONS:
1. The total marks of the questions are 25.
2. Candidates attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

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Q1	(a)	Classify air pollutants into different categories based on their origin, chemical composition and state of matter.	[2]	1	2
Q1	(b)	Define any three of the following: dust, smoke, mist, fog, fly ash and fumes.	[3]	1	1
Q2	(a)	Discuss the following global implication of air pollution: (i) Ozone layer depletion, (ii) Acid Rain, (iii) Greenhouse effect.	[3]	1	2
Q2	(b)	A sample of air analyzed at 0°C and 1 atm pressure is reported to contain 9 ppm of CO. Determine the equivalent CO concentration in $\mu g/m^3$ and mg/m^3.	[2]	1	3
Q3	(a)	What are the devices used for sampling gases and vapors? Describe any one in detail.	[3]	1	2
Q3	(b)	List out the various methods of collecting gaseous samples from a stack.	[2]	1	1
Q4	(a)	Give the Indian air quality standards (for any three air quality parameters) for residential, industrial and sensitive areas.	[3]	1	1
Q4	(b)	Define Air Pollution Index. What are the uses of air pollution indices?	[2]	1	2
Q5	(a)	What do you mean by ambient lapse rate and adiabatic lapse rate?	[2]	2	1
Q5	(b)	Write short notes on 'Plume Behavior'.	[3]	2	3

:::::: 28/09/2022 ::::::M