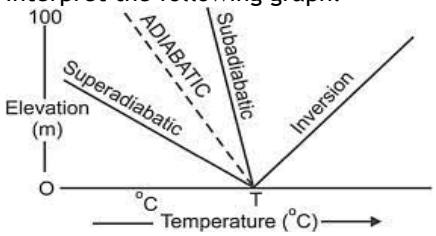
BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: B.TECH **SEMESTER : VII**
BRANCH: CIVIL **SESSION : MO/2023**

SUBJECT: CE420 AIR POLLUTION AND CONTROL

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Discuss the sources of air pollution and their effects on human health	[5]	1	2
Q.1(b)	Calculate SO_2 concentration is given as 830mg/m^3 at 25°C and 1 atm. Express this concentration in parts per million (ppm).	[5]	1	5
Q.2(a)	Explain NDIR technique for CO measurement.	[5]	2	2
Q.2(b)	Discuss beta-attenuation technique for particulate matter measurement.	[5]	2	5
Q.3(a)	Interpret the following graph. 	[5]	3	5
Q.3(b)	Explain Fixed box model for area source interpretation of a city. Discuss its limitations.	[5]	3	4
Q.4(a)	Discuss the working principle, advantages and disadvantages of bag house filter.	[5]	4	2
Q.4(b)	Discuss the current national policies and programmes implemented in India to control air pollution.	[5]	4	3
Q.5(a)	Calculate the air fuel ratio of a gasoline having composition of C_7H_{13} $C_7H_{13}+10.25O_2+38.54N_2=7CO_2+6.5H_2O+38.54N_2$	[5]	5	5
Q.5(b)	Illustrate the control mechanisms of air pollutants emission in a four-stroke engine?	[5]	5	2

::::::23/11/2023::::::M