

Quiz	Name:
Course: ESO 101 Environmental Science	Admission No:
Total = 30 marks	

Single Choice Question and fill up the blanks (1x18 = 18 marks)

- What is the WHO 2021 air quality guideline value for PM_{2.5} 24-hour average levels
a. 60 µg/m³ b. 40 µg/m³ **c. 15 µg/m³** d. 5 µg/m³
- How much proportion of solar radiation is absorbed by atmosphere and reflected back to space, respectively.
a. 20% and 30% b. 30% and 20% c. 50% both d. 70% and 10%
- Arrange the mass concentration of particles in decreasing order- PM₁, PM_{2.5}, PM₁₀
a. PM₁ > PM_{2.5} > PM₁₀ **b. PM₁₀ > PM_{2.5} > PM₁** c. PM₁ > PM₁₀ > PM_{2.5} d. PM_{2.5} > PM₁ > PM₁₀
- How environmental lapse rate (ELR) and dry adiabatic lapse rate (DALR) are related in Superadiabatic conditions
a. ELR > DALR b. ELR < DALR c. ELR = DALR d. None
- The height of Tropopause is lowest in which latitude?
a. 0° b. 30° North c. 60° North **d. 90° South**
- Which of these is a primary and secondary air pollutant respectively?
a. PM and SO₂ b. HNO₃ and Lead **c. SO₂ and O₃** d. Lead and NH₃
- The Sun and Earth radiates its peak energy at which wavelength?
a. 0.2 µm and 0.5 µm **b. 0.5 µm and 10 µm** c. 0.5 µm and 0.2 µm d. 0.8 µm and 20 µm
- Coriolis force deflects surface wind towards which direction in Northern and Southern hemisphere, respectively. (Clockwise = C; Anticlockwise = AC)
a. C, C b. AC, AC **c. C, AC** d. AC, C
- What is the name of global wind that blows between 0° N and 30° N?
a. Easterlies b. South westerlies **c. North east trades** d. North west trades
- The right of every citizen, regardless of age, race, gender, social class, or other factor, to adequate protection from environmental hazards is called as **Environmental Justice**
- CO₂ is more potent than the CH₄ and CO₂ is the most reactive gas.
a. True, True b. True, False c. False, True **d. False, False**
- The earth's atmosphere is a poor absorber of visible radiation emitted by sun whereas good absorber of terrestrial radiation
a. True, False b. False, False **c. True, True** d. False, True
- Atmospheric window is transparent to the band of radiation between **7-13µm** which allows the IR to exit to space
- The mass of the atmosphere is **5.1×10¹⁸ kg**
- The molecular weight of the atmospheric air is **28.92 g/mol**
- The carbon capacity, averaged over the surface of the earth, in the atmospheric CO₂ is
a. 1 kg/m² b. 0.01 kg/m² c. 0.5 kg/m² **d. 1.6 kg/m²**
- Based on the CO₂ concentration measured in the Mauna Loa station, the concentration during the recent time – post 2010 was above **400 PPM**
- Changes in the energy flux in the atmosphere is referred as **Radiative forcing**

Multiple Choice Questions (2x6 = 12 marks)

19. Which pollutants are predominantly emitted from diesel driven vehicles?
a. carbon monoxide b. nitrogen oxides c. hydrocarbon d. particulates matter
20. The heterogeneous solar intensity distribution over the surface of earth is responsible for following things
a. Atmospheric winds b. Variation in tropopause height c. None of them d. Coriolis force
21. Which latitude sees High pressure zone?
a. 30° North b. 60° North c. 90° North d. 30° South
22. CO₂ absorbs the IR between the wavelength of
a. 1-2 μm b. 3-4 μm c. 10-12 μm d. 3-4 μm and 14-16 μm
23. Which layers of atmosphere see decrease in temperature with decrease in altitude?
a. Troposphere b. Mesosphere c. Thermosphere d. Stratosphere
24. The sustainable development encompasses
a. Environmentally sound decision b. Economically viable decision c. Socially equitable decision d. None of these

Note

In Q 22. Marks will be given for both options (b and d) and only d