



**K. K. Wagh Institute of Engineering Education & Research, Nashik**  
(An Autonomous Institute From A.Y. 2022-23)

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:IV
Class:SY Btech Mech	Program:B.Tech Mech
Branch Code:MEC	Pattern:2022
Name of Course:Economics for Sustainability	Course Code:MEC222015
Max. Marks:60	Duration:2.30 Hrs.

**Instructions:** Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains \_\_02\_\_ page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

**Question No. 1 Attempt following Question**

- 1a) Discuss the role of government insurance and government hospitals in achieving health care for all in India. (6) CO1

**Question No. 2 Attempt following Question**

- 2a) A family of five receives monthly electricity bill of 100 kWh eighty percent of which comes from coal based plant and remaining from solar. Family travels by car on an average 80 km per month .Car mileage is 15 km per litre? Assuming specific emission factor as 1 kg/kWh for coal and 2.2 kg/litre for petrol calculate the annual carbon footprint per capita for this family accounting for transport and electricity (6) CO2

**Question No. 3 Attempt following Question**

- 3a) Explain negative externalities with examples and graph (8) CO3  
(8marks)

**OR**

- 3b) Explain with the example of air pollution how negative externalities could be minimized through different methods (8) CO3
- 3c) Explain command & control method for air pollution externality (8) CO3

**OR**

- 3d) Discuss the approach suggested by Coase in addressing environmental problems? Was he suggesting command and control approach to reduce environmental impacts? Explain (8) CO3

**Question No. 4 Attempt following Question**

- 4a) How Pigouvian taxes can reduce coal based power generation. Explain with graph (8) CO3

**OR**

- 4b) How Pigouvian taxes can reduce air pollution from cars. Explain with graph. (8) CO3

- 4c) Which negative externality can be reduced by carbon tax. Explain with example and specific data. (8) CO3

**OR**

- 4d) Discuss the role of emissions trading in reducing the carbon emissions. (8) CO3

**Question No. 5 Attempt following Question**

- 5a) Write a short note on IPCC (8) CO3

**OR**

- 5b) Discuss the positive externalities associated with education. (8) CO3

- 5c) Discuss your field survey detailing the methodology adopted questions asked and findings from the study (8) CO3

**OR**

- 5d) Discuss the command and control methods and taxes used by government to curb the use of private vehicles (8) CO3

**XXXXXXXXXXXXXXXXXXXXXXXXXXXX**