

The background of the cover is a photograph of a sunset or sunrise over a city skyline. The sky is a mix of teal, orange, and yellow, with some clouds. The city buildings are in silhouette against the bright horizon.

**Previous Years'
Solved Papers**

NTA UGC NET

**ENVIRONMENTAL
SCIENCE**

June 2012 to July 2018

Paper II

&

Paper III

BY GKSERIES

1. July 2018
 - i. Paper II
2. Nov 2017
 - i. Paper II
 - ii. Paper III
3. January 2017
 - i. Paper II
 - ii. Paper III
4. July 2016 (28-08-2016)
 - i. Paper II
 - ii. Paper III
5. July 2016 (10-07-2016)
 - i. Paper II
 - ii. Paper III
6. December 2015
 - i. Paper II
 - ii. Paper III
7. June 2015
 - i. Paper II
 - ii. Paper III
8. December 2014
 - i. Paper II
 - ii. Paper III
9. June 2014
 - i. Paper II
 - ii. Paper III
10. December 2013
 - i. Paper II
 - ii. Paper III
11. September 2013 (re-conducted on 08-09-2013)
 - i. Paper II
 - ii. Paper III
12. June 2013
 - i. Paper II
 - ii. Paper III
13. December 2012
 - i. Paper II
 - ii. Paper III
14. June 2012
 - i. Paper II
 - ii. Paper III

ENVIRONMENTAL SCIENCES (July 2018)

PAPER - II

Note : This paper contains hundred (100) objective type questions of two (2) marks each. All questions are compulsory.

1. For a thermally comfortable, seated bare bodied person at 25°C, the maximum energy loss is due to :

- (1) Radiation (2) Convection (3) Conduction (4) **Evaporation**

2. High concentrations of pollutants at ground level during winter season are due to :

- (1) **Radiation inversion** (2) Subsidence inversion
(3) Frontal inversion (4) Landscape induced inversion

3. The theme 'Transforming our world : 2030 Agenda' pertains to :

- (1) Protection of ozone layer (2) Climate change - Action plans
(3) **Sustainable development goals** (4) Millennium development goals

4. At a latitude of 30°, there is pressure gradient of 5.0 mb per 100 km. Given the density of air $\sim 1.25 \text{ kg/m}^3$, the geostrophic winds will have velocity (m/s) :

- (1) 5.48 m/s (2) **54.86 m/s** (3) 109.72 m/s (4) 27.43 m/s

5. The basic nature of lithosphere does not arise from element(s) :

- (1) Na and K (2) Ca (3) Mg (4) **Si**

6. If the tropospheric lapse rate be 6.5°C/km and if T denotes temperature and Z denotes the altitude then :

- (1) $\frac{dT}{dZ} = 6.5 \text{ C/km}$ (2) $\frac{dT}{dZ} = - 6.5 \text{ C/km}$

- (3) $\frac{dZ}{dT} = 6.5 \text{ C/km}$ (4) $\frac{dZ}{dT} = - 6.5 \text{ C/km}$

7. Identify the statement, which best describes the second law of thermodynamics :
- (1) The internal energy of the universe is constant.
 - (2) Energy can be neither created nor destroyed.
 - (3) At absolute zero, entropy of a substance is considered to be zero.
 - (4) **When an isolated system undergoes a spontaneous change, the entropy of the universe increases.**
8. Tropical cyclones occur on :
- (1) Meso - scale
 - (2) Micro - scale
 - (3) Planetary scale
 - (4) **Synoptic scale**
9. If e and p are vapour pressure of water and total pressure of moist air, the equation of state for moist atmosphere can be written as :
- (1) $PV \approx RT \left(1 + \frac{E}{P} \right)$
 - (2) $PV \approx RT \left(1 - \frac{E}{P} \right)$
 - (3) **$PV = RT \left(1 + 0.38 \frac{E}{P} \right)$**
 - (4) $PV = RT \left(1 + 0.62 \frac{E}{P} \right)$
10. Select the incorrect statement about the redox potential of aqueous solutions :
- (1) As the concentration of molecular oxygen increases, the redox potential increases.
 - (2) As the concentration of hydrogen ions increases, the redox potential increases.
 - (3) As the concentration of molecular oxygen decreases, the redox potential decreases.
 - (4) **As the concentration of hydrogen ions decreases, the redox potential increases.**
11. Match the List - I and List - II. Identify the correct answer from the codes given below :
- | List - I
(Analyte) | List - II
(Method) |
|-----------------------|-------------------------|
| (a) Lead | (i) Winkler Method |
| (b) Dissolved oxygen | (ii) Gravimetric Method |
| (c) SO ₂ | (iii) GC-MS |
| (d) PAH | (iv) West Gaeke Method |
- (a) (b) (c) (d)
- (1) (iii) (iv) (ii) (i)
 - (2) (i) (ii) (iii) (iv)
 - (3) (ii) (iii) (iv) (i)
 - (4) **(ii) (i) (iv) (iii)**