

**D****DF-3044****Second Year B. Sc. (Sem. III) Examination****March / April - 2016****ENV-301 : Environment Science - V****(Core-I)**

Time : 2 Hours]

[Total Marks : 50

સૂચના/Instructions :

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="SECOND YEAR B. SC. (SEM. 3)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="301 : ENVIRONMENT SCIENCE - 5"/>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="4"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....): <input type="text" value="Nil"/>	

- (2) પ્રશ્નપત્રમાં કુલ ૫૦ પ્રશ્નો છે, બધા જ ફરજિયાત છે. દરેક પ્રશ્નનો (૧) એક ગુણ છે.
There are 50 questions and each question carries (1) mark and all are compulsory.
- (3) દરેક પ્રશ્નનો કાળજીપૂર્વક અભ્યાસ કરી સાચો વિકલ્પ પસંદ કરો.
Read the question carefully before selecting the correct option.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ
O.M.R. Sheet-ની પાછળ છાપેલ છે.
Important instructions to fillup O.M.R. Sheet
are given on back side of the provided O.M.R. Sheet.***

- 1 The value of adiabatic lapse rate for dry air is _____ °C/km.
(A) -9 (B) +11
(C) -6.5 (D) +10
- 2 Negative lapse rate is _____ for organisms.
(A) meaningful
(B) dangerous
(C) Safe
(D) helpful
- 3 On basis of physical state, there are _____ groups of air pollutants.
(A) 4 (B) 3
(C) 5 (D) 2
- 4 _____ ppm Of SO₃ cause breathing discomfort.
(A) 1 (B) 4
(C) 10 (D) 2
- 5 _____ gas blackens the lead paint.
(A) H₂S
(B) SO₂
(C) SO₃
(D) H₂SO₃
- 6 Area of acid rain is _____.
(A) mountains
(B) thickly populated city
(C) terrestrial area
(D) villages
- 7 Corrosion of metal take place due to
(A) smog
(B) acid rain
(C) presence of ozone
(D) temperature lapse
- 8 Acid rain is due to high concentration of
(A) SO₂ and NO₂
(B) CO₂ and CO
(C) None of these
(D) N₂ and O₂
- 9 Which is not a green house gas ?
(A) CH₄
(B) CFCs
(C) CO
(D) CO₂
- 10 Chlorofluorocarbon (CFC) used as coolants in refrigerators contains
(A) Hydrogen
(B) Chlorine and Fluorine
(C) All of these
(D) Carbon

- 11 The world environment day is celebrated on
(A) 5th June
(B) 5th January
(C) 15th February
(D) 15th June
- 12 Short term properties of the atmosphere at a given place and time is referred as
(A) Weather
(B) Microclimate
(C) Season
(D) Climate
- 13 Which of the following is an example of impact of the development activities on hydrosphere?
(A) Water pollution
(B) Soil pollution
(C) Noise pollution
(D) Air pollution
- 14 The fifth zone of atmosphere is _____.
(A) Anthrosphre
(B) mesosphere
(C) ionosphere
(D) troposphere
- 15 The term environment is derived from the word _____ environner.
(A) French
(B) Latin
(C) American
(D) Greek
- 16 Example of secondary pollutant is
(A) O₂
(B) SO₂
(C) PAN
(D) H₂O
- 17 Environment consists of _____ segments.
(A) 2
(B) 3
(C) 1
(D) 4

- 18 The density of H₂O is
(A) 1 g/cm³
(B) 1 mg/L
(C) 1 kg/m³
(D) 1 μg/m³
- 19 O₂ and CO₂ levels in atmosphere depends on _____.
(A) animal kingdom
(B) plant kingdom
(C) soil
(D) microbes
- 20 Atmosphere is divided in to _____ concentric layers.
(A) 4
(B) 2
(C) 5
(D) 3
- 21 Concentration of ozone is
(A) 1 to 5 ug/m³ v
(B) 1 to 5 ppb by volume
(C) 1 to 5 dobson v
(D) 1 to 5 pprn by volume
- 22 Which sphere has the lowest temperature in the atmosphere ?
(A) stratosphere
(B) tropospher
(C) mesosphere
(D) ionosphere
- 23 Earth's albedo is _____%.
(A) 46
(B) 23
(C) 31
(D) 30
- 24 Environment degradation is due to
(A) Urbanization
(B) Developmental works
(C) All of these
(D) Rapid industrialization

- 25 The outer soil crust of the earth is known as
- (A) Exosphere
 - (B) Lithosphere
 - (C) Mesosphere
 - (D) Hydrosphere
- 26 Sun is located at a distance of _____ km from earth's surface.
- (A) 1.5×10^8
 - (B) 1.4×10^{20}
 - (C) 1.5×10^{10}
 - (D) 1.4×10^6
- 27 Earth's actual global average temperature is _____ K.
- (A) 255
 - (B) 290
 - (C) 280
 - (D) 6000
- 28 Which gases are probably found in the troposphere and undergo ionization?
- (A) CH_4 and NH_3
 - (B) O_2 and CO_2
 - (C) water and cloud
 - (D) oxygen and nitric oxide
- 29 The initial life forms derived their energy by _____ of organic matter.
- (A) heating
 - (B) pyrolysis
 - (C) decaying
 - (D) fermentation
- 30 Atmospheric CO_2 is replenished every _____.
- (A) 3000 years
 - (B) 8-16 years
 - (C) 100 million year
 - (D) 4-8 years

- 31 Colloidal size particles are called _____.
- (A) mist
(B) aitken
(C) fog
(D) aerosol
- 32 Particles are involved in
- (A) ice crystals for
(B) heat balance of earth
(C) all
(D) cloud and fog formation
- 33 Complete the reaction : $3\text{FeS}_2 + 8 \text{O}_2 \rightarrow \text{_____} + 6\text{SO}_2$
- (A) Fe_2O_3
(B) Fe_2S
(C) CH_2O
(D) Fe_3O_4
- 34 Aerosol mist give raise to _____ due to oxidation of SO_2 .
- (A) HCl
(B) HNO_3
(C) all
(D) H_2SO_4
- 35 Air pollutants are measured in which unit ?
- (A) ppb (B) ppm
(C) $\mu\text{g}/\text{m}^3$ (D) $\mu\text{g}/\text{l}$
- 36 Concentration of PAH in urban atmosphere is _____ g/m^3 .
- (A) 10
(B) 30
(C) not detected
(D) 20
- 37 How many van Allen belts are there ?
- (A) 3 (B) 1
(C) none (D) 2
- 38 Free radicals plays an important role in the formation of
- (A) fog
(B) cloud
(C) none
(D) smog
- 39 Meteorology is affected by _____ properties and reactions of atmosphere.
- (A) chemical
(B) analytical
(C) environmental
(D) physical
- 40 Effective dispersion of pollutants in air depends on _____ of atmosphere.
- (A) turbulent structure
(B) degree of stability and turbulent structure both
(C) none of them
(D) degree of stability

- 41 The decrease in temperature with altitude is known as
- (A) inversion rate
 - (B) lapse rate
 - (C) combination rate
 - (D) adiabatic rate
- 42 The temperature lapse rate on a sunny day is _____°C/km
- (A) 10
 - (B) 0.1
 - (C) 1
 - (D) 1000
- 43 Full form of PAN is
- (A) peroxy acetyl nitrate
 - (B) peracetyl oxy nitrate
 - (C) poly acrylic acid
 - (D) polyacetyl nitriles
- 44 Dry adiabatic lapse rate is given as
- (A) $\tau = (-dT / dZ)_{\text{adia}}$
 - (B) $\tau = (dT / dZ)_{\text{adia}}$
 - (C) $\tau = (dZ / dT)_{\text{adia}}$
 - (D) $\tau = (-dZ / dT)_{\text{adia}}$
- 45 Valleys and low lying areas are affected by
- (A) diurnal lapse
 - (B) nocturnal inversion
 - (C) nocturnal cooling
 - (D) nocturnal heating

- 46 Elevated advective inversion occurs at
- (A) farms
 - (B) village
 - (C) valley
 - (D) hill range
- 47 _____ is responsible for creation of world's great deserts located at 30° latitude.
- (A) subsidence inversion
 - (B) advective inversion
 - (C) radiational inversion and subsidence inversion
 - (D) radiational inversion
- 48 Location of trade wind is
- (A) between 30° and 60°
 - (B) above 30°
 - (C) below 60°
 - (D) between 30° and equator
- 49 The wind velocity profile is influenced by
- (A) temperature and pressure
 - (B) surface roughness and time
 - (C) sunlight and radiation
 - (D) thermal and mechanical turbulence
- 50 The value of exponent α of simple empirical power law varies between
- (A) 0.40 to 0.45
 - (B) 0.14 to 0.40
 - (C) 0.28 to 0.40
 - (D) 0.11 to 0.33