

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

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

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

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

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

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

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