

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

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

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

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

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

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

- 45 The outer soil crust of the earth is known as
(A) Lithosphere
(B) Mesosphere
(C) Hydrosphere
(D) Exosphere
- 46 Sun is located at a distance of _____ km from earth's surface.
(A) 1.4×10^{20}
(B) 1.5×10^{10}
(C) 1.4×10^6
(D) 1.5×10^8
- 47 Earth's actual global average temperature is _____ K.
(A) 290
(B) 280
(C) 6000
(D) 255
- 48 Which gases are probably found in the troposphere and undergo ionization?
(A) O₂ and CO₂
(B) water and cloud
(C) oxygen and nitric oxide
(D) CH₄ and NH₃
- 49 The initial life forms derived their energy by _____ of organic matter.
(A) pyrolysis
(B) decaying
(C) fermentation
(D) heating
- 50 Atmospheric CO₂ is replenished every _____.
(A) 8-16 years
(B) 100 million year
(C) 4-8 years
(D) 3000 years