



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 world environment day is celebrated on
 - (A) 15th June
 - (B) 5th June
 - (C) 5th January
 - (D) 15th February

- 2 Short term properties of the atmosphere at a given place and time is referred as
 - (A) Climate
 - (B) Weather
 - (C) Microclimate
 - (D) Season

- 3 Which of the following is an example of impact of the development activities on hydrosphere?
 - (A) Air pollution
 - (B) Water pollution
 - (C) Soil pollution
 - (D) Noise pollution

- 4 The fifth zone of atmosphere is _____.
 - (A) troposphere
 - (B) Anthrosphre
 - (C) mesosphere
 - (D) ionosphere

- 5 The term environment is derived from the word _____ environner.
 - (A) Greek
 - (B) French
 - (C) Latin
 - (D) American

- 6 Example of secondary pollutant is
 - (A) H₂O
 - (B) O₂
 - (C) SO₂
 - (D) PAN

- 7 Environment consists of _____ segments.
 - (A) 4
 - (B) 2
 - (C) 3
 - (D) 1

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

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

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

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

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

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