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

सूचना/Instructions :

(1)

(2) प्रत्येकमात्र 50 प्रश्न है, अधिक ज्ञानविश्लेषण है. इसके प्रश्नों (1) अंक गुणा है.
There are 50 questions and each question carries (1) mark and all are compulsory.

(3) इसके प्रश्नों का महत्वपूर्ण अभ्यास करें तथा विवेचन पसंद करें.
Read the question carefully before selecting the correct option.

O.M.R. Sheet का अंगेरी अंगेरी सुविधा आपेक्ष O.M.R. Sheet-नी पात्र नसेक छ.
Important instructions to fillup O.M.R. Sheet are given on back side of the provided O.M.R. Sheet.

DF-3044_A ] 1 [ Contd...
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) Anthrosphere
   (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 into _______ 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 μg/m³
    (C) 1 to 5 ppb by volume
    (D) 1 to 5 dobson

12 Which sphere has the lowest temperature in the atmosphere?
   (A) ionosphere
   (B) stratosphere
   (C) troposphere
   (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) $1.4 \times 10^6$
   (B) $1.5 \times 10^8$
   (C) $1.4 \times 10^{20}$
   (D) $1.5 \times 10^{10}$

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 : 3FeS₂ + 8 O₂ → _______ +6SO₂
   (A) Fe₃O₄  
   (B) Fe₂O₃  
   (C) Fe₂S  
   (D) CH₂O  

24 Aerosol mist give raise to _______ due to oxidation of SO₂.
   (A) H₂SO₄  
   (B) HCl   
   (C) HNO₃  
   (D) all  

25 Air pollutants are measured in which unit ?
   (A) μg/l      
   (B) ppb      
   (C) ppm      
   (D) μg/m³  

26 Concentration of PAH in urban atmosphere is _______ g/m³.
   (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 \( \text{_______}^\circ \text{C/km} \)
   (A) 1000
   (B) 10
   (C) 0.1
   (D) 1

33 Full form of PAN is
   (A) polyacetylene nitriles
   (B) peroxy acetylene nitrate
   (C) peracetylene oxy nitrate
   (D) poly acrylic acid

34 Dry adiabatic lapse rate is given as
   (A) \( \tau = (-dZ / dT)_{\text{adia}} \)
   (B) \( \tau = (-dT / dZ)_{\text{adia}} \)
   (C) \( \tau = (dT / dZ)_{\text{adia}} \)
   (D) \( \tau = (dZ / dT)_{\text{adia}} \)

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 $\alpha$ 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) 4
   (C) 10         (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) SØ₂ and ÑO₂
   (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