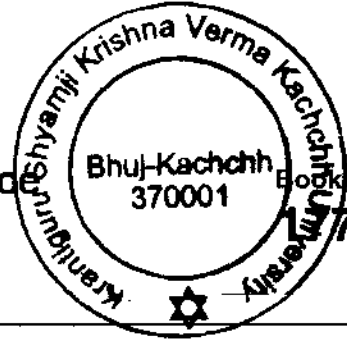


PHDKU18



A

Subject Code : **18-Environmental Science** Booklet Sr. No.

તમને કહેવામાં ન આવે ત્યાં સુધી પ્રશ્નપુસ્તિકા ખોલવી નહીં.

Do not open the Question Booklet until ask to do so.

70469

A

ઉમેદવારનું નામ :

Candidates Name :

ઉમેદવારનો સીટ નંબર

ઉમેદવારની સહી

ખંડ નિરીક્ષકની સહી

સમય : 60 મિનિટ

કુલ પ્રશ્નો : 50

કુલ ગુણ : 100

ઉમેદવારોને સૂચના

- (1) આ પ્રશ્નપુસ્તિકામાં પ્રશ્ન ક્રમાંક 1-50 સુધી કુલ 50 પ્રશ્નો છે. પ્રત્યેક પ્રશ્નનો ઉત્તર (1), (2), (3) અને (4) પૈકી કોઈ એક છે. પ્રશ્નની સાથે જ ચારેય વિકલ્પો આપવામાં આવેલ છે. તમારે બધા જ પ્રશ્નોના ઉત્તર આપવાના છે. તમારે આ સાથે અલગ આપેલ ઉત્તરવહી (OMR SHEET)માં જ ઉત્તર આપવાના છે.

ઉદાહરણ તરીકે :

ભારતનું કયું રાજ્ય સૌથી લાંબો દરિયા-કિનારો ધરાવે છે ?

- (1) મહારાષ્ટ્ર (2) તામિલનાડુ  
(3) ગુજરાત (4) આંધ્રપ્રદેશ

જવાબવહી (Answer Sheet)માં

① ② ● ④

ઉપર્યુક્ત ઉદાહરણમાં સાચો જવાબ '3' છે. આથી '3'નું વર્તુલ કાળું (encode) કરેલ છે. ઉમેદવારોએ જવાબમાં "ગુજરાત" લખવું નહીં.

- (2) પ્રત્યેક પ્રશ્નના સાચા જવાબ માટે (2)બે ગુણ છે.  
(3) આ પ્રશ્નપુસ્તિકામાં તમારે કશું જ લખવાનું નથી.  
(4) સમય પૂર્ણ થયે પ્રશ્નપુસ્તિકા અને OMR ઉત્તરપત્ર સુપરવાઈઝરને પરત સોંપી દેવું.  
(5) કસોટીની સમય મર્યાદા 60 મિનિટ છે.  
(6) ઉમેદવારે વાદળી / કાળી બોલપોઈન્ટ પેનથી ઉત્તરો લખવાના છે. અન્ય શાહી, પેન કે પેન્સિલનો ઉપયોગ કરી શકાશે નહીં.

Instructions to Candidates

- (1) In this Test Booklet, there are Ques. No. 1-50, total 50 questions. The answer of each is any one out of (1), (2), (3) and (4). Four alternatives are given with the question. You have to answer all the questions. You have to answer on the OMR Sheet given separately to you.

For example :

Which state of India has the longest sea coast ?

- (1) Maharashtra (2) Tamilnadu  
(3) Gujarat (4) Andra Pradesh

In answer sheet :

① ② ● ④

In the above example, the true answer is '3'. Hence, the circle of '3' is blackened (encoded) candidates should not write 'Gujarat' in the answer.

- (2) Each correct answer carries (2)Two marks.  
(3) Do not write anything in this question paper.  
(4) Hand over Test Booklet and OMR Answer sheet to supervisor, after examination is over.  
(5) Time limit for this test is 60 minutes.  
(6) Use blue/black ball point pen for filling responses in Answer Sheet. Any other ink, pen or Pencil is strictly prohibited.

પરીક્ષા પૂરી થયા બાદ પ્રશ્નપુસ્તિકા તથા OMR ઉત્તરવહી વર્ગ નિરીક્ષકને પરત કર્યા બાદ જ વર્ગખંડ છોડવાનો રહેશે. તેમ કરવામાં કસૂર થયેથી શિસ્તભંગનાં પગલાં ગણી પરીક્ષા માટે જે તે ઉમેદવારને ગેરલાયક ઠરાવવામાં આવશે.

- 1 Which of the following is not a soil micronutrient ?
- (1) Sulphur (2) Boron  
(3) Iron (4) Zinc
- 2 In total global emission of CO<sub>2</sub>, India's contribution is about
- (1) 3% (2) 6%  
(3) 9% (4) 12%
- 3 When the full potential of physical, chemical and biological factors, a species can use if there is no competition, it is called
- (1) Fundamental niche (2) Ecological niche  
(3) Realized niche (4) Competitive exclusion
- 4 The uppermost zone of atmosphere of earth, where shortwave ultraviolet radiations are absorbed, is
- (1) Troposphere (2) Stratosphere  
(3) Mesosphere (4) Thermosphere

- 5 Match List - I with List - II which contains pollutant gases and their threshold (safe limit) values as per WHO standards :

List - I

List - II

(Pollutant gas)

(Thresholds)

a. CO

i. 2 ppm

b. SO<sub>2</sub>

ii. 50 ppm

c. NO

iii. 0.08 ppm

d. PAN

iv. 25 ppm

Identify the correct code :

Codes :

a b c d

(1) ii iii i iv

(2) iv ii i iii

(3) ii i iv iii

(4) iii iv ii i

- 6 Identify the pair (element-health effect) which is correctly matched :
- (1) Lead – Methaemoglobinemia
  - (2) Arsenic – Kidney damage
  - (3) Mercury – Nervous disorder
  - (4) PAN – Hypoxemia
- 7 Which of the following is not a type of ex situ conservation method ?
- (1) Botanical garden
  - (2) Zoological park
  - (3) Wildlife sanctuaries
  - (4) Gene banks
- 8 Which of the following methods is generally not adopted for the safe disposal of biomedical waste ?
- (1) Incineration
  - (2) Hydroclaving
  - (3) Land filling
  - (4) Shredding after disinfection
- 9 Which one of the following techniques can be used for determining the level of cadmium in soil ?
- (1) UV – Visible spectrophotometer
  - (2) Atomic Absorption Spectrophotometer
  - (3) XRD
  - (4) IR spectrometer
- 10 Natural source of polycyclic aromatic hydrocarbons (PAHs) is
- (1) Root exudates
  - (2) Anaerobic bacteria
  - (3) Aerobic bacteria
  - (4) Grass fires

- 11 United Nations Conference on Environment, also termed as Earth Summit, was held in 1992 in which city ?
- (1) Rio de Janeiro                      (2) Kyoto  
(3) Stockholm                              (4) Copenhagen
- 12 Which of the following substances is generally not considered toxic ?
- (1) Carbonic Acid                      (2) CO  
(3) Acetaldehyde                      (4) Benzene
- 13 Variety of different species, genetic variability among individuals within each species and variety of ecosystems constitute the so called
- (1) Species diversity  
(2) Genetic diversity  
(3) Biological diversity  
(4) Ecological diversity
- 14 C4 plants are commonly found in
- (1) Arid and hot region  
(2) Humid and low temperature environment  
(3) Temperature environment  
(4) Semi-humid and rainy environment
- 15 Which one of the following is not a random sampling method ?
- (1) Stratified Sampling                      (2) Cluster Sampling  
(3) Systematic Sampling                      (4) Judgement Sampling

- 16 Exchangeable Sodium Percentage (ESP) > 40 and pH > 9.8 are characteristic of
- (1) Acidic soil (2) Weak saline soil  
(3) Strongly saline soil (4) Eroded soil
- 17 The acidity of normal rain water is due to
- (1) CO<sub>2</sub> (2) Cl<sub>2</sub>  
(3) NO<sub>2</sub> (4) SO<sub>2</sub>
- 18 The part of an actual resource which can be developed profitably in the future is
- (1) Non-renewable resources  
(2) Potential resources  
(3) Reserved resources  
(4) Stock resources
- 19 Trophic state index of aquatic ecosystem is determined by the concentration of
- (1) Chlorophyll - a (2) NO<sub>3</sub><sup>-</sup>  
(3) PO<sub>4</sub><sup>-3</sup> (4) NO<sub>2</sub><sup>-</sup>
- 20 pH of 0.01 M HNO<sub>3</sub> is
- (1) 0.1 (2) 1  
(3) 2 (4) 10

- 21 Which of the following is a correct match ?
- (1) Periyar – Kerala                      (2) Ranthambore – M. P.  
(3) Panna – U. P.                          (4) Bandhvgarh – Bihar
- 22 CBD stands for
- (1) Convention on biological diversity  
(2) Conservation Biodiversity Development  
(3) Conservation Association for Biodiversity and management  
(4) Cumulative plan for biological diversity
- 23 Walkley and Black rapid titration method is used for the determination of
- (1) Nitrate content of soil  
(2) Phosphate content of soil  
(3) Fluoride content of soil  
(4) Organic carbon content of soil
- 24 The sources of thermal pollution are
- (1) Power plants                          (2) Cooling forests  
(3) Industrial effluents                  (4) All of the above
- 25 Who issues the Ecomark notification ?
- (1) Ministry of Human Health and Family Welfare, Govt. of India  
(2) Ministry of Environment and Forest, Govt. of India  
(3) Department of Science and Technology, Govt. of India  
(4) Bureau of Indian Standards

- 26 Which of the following can be considered in Environmental Risk Assessment ?
- (1) Exposure period                      (2) Potency of a toxic material  
(3) Quality of models                      (4) All of the above
- 27 In India, crocodile breeding project started for the first time
- (1) Tamil Nadu                              (2) Paschim Bangal  
(3) Odisha                                      (4) Goa
- 28 The principal components of photochemical smog in urban areas are
- (1) SO<sub>2</sub> and NO<sub>2</sub>  
(2) SPM and CO  
(3) SPM and NO<sub>2</sub>  
(4) Oxides of nitrogen, hydrocarbon and ozone
- 29 Which of the following is not an IUCN designated threatened species found in India ?
- (1) Asiatic Lion  
(2) Bengal Tiger  
(3) Indian white rumped Vulture  
(4) Mountain Gorilla
- 30 Removal of top fertile soil by water is called
- (1) Soil erosion                              (2) Leaching  
(3) Siltation                                      (4) Weathering of soil

- 31 The Indian monsoon period is from
- (1) October to November
  - (2) December to February
  - (3) June to September
  - (4) March to May
- 32 Who is responsible for public consultation process of EIA ?
- (1) SPCB
  - (2) SPCB and District Collector
  - (3) SPCB and CPCB Chairman
  - (4) SPCB and Civil Society
- 33 Which of the following parameters is not a good indicator of contamination in ground water ?
- (1) BOD
  - (2) Nitrates
  - (3) Silica
  - (4) Chlorides
- 34 The Committee which reviews the Environmental Impact Assessment and Environmental Management plan reports of a developmental project in Ministry of Environment and Forest is called
- (1) Project Assessment Committee
  - (2) Project Appraisal Committee
  - (3) Project Evaluation Committee
  - (4) Project Estimate Committee
- 35 PAHs stand for
- (1) Polycyclic Amino Hydrocarbons
  - (2) Polycyclic Aromatic Hydrocarbons
  - (3) Polycyclic Amines Hydrocarbons
  - (4) Para Amino Hydrocarbon



- 36 Largest amount of fresh water is present in
- (1) Lakes (2) Rivers  
(3) Glaciers (4) Polar ice
- 37 In a typical municipal solid waste, least percentage of Ash is found in
- (1) Plastic (2) Leather  
(3) Textiles (4) Rubber
- 38 Which one of the following does not contribute to climate change ?
- (1) NO (2) O<sub>3</sub>  
(3) SF<sub>6</sub> (4) HFCs
- 39 Which one of the following is a peroxy radical ?
- (1) OH° (2) R°  
(3) RO° (4) ROO°
- 40 Suppose a 70 kg person drinks 2L of water every day for 70 years with a chloroform concentration of 0.10 mg/L (the drinking water standard), upper bound cancer risk for these individual will be
- (1) 25 in 1 million (2) 17 in 1 million  
(3) 37 in 1 million (4) 5 in 1 million

- 41 What is Eco mark ?
- (1) Label given to recycled products
  - (2) Label given to an environment friendly products
  - (3) Land mark indicating the boundaries of bio-parks
  - (4) Label given to non-recyclable products
- 42 Natural Gas is composed of primarily
- (1) Methane
  - (2) n-butane
  - (3) n-octane
  - (4) Mixture of n-butane and n-octane
- 43 Which of the following is not a non-formal Environment Education and Awareness Programme ?
- (1) Global Learning and Observations to Benefit the Environment (GLOBE).
  - (2) National Environment Awareness Campaign (NEAC).
  - (3) Environmental Education in School System
  - (4) Eco-clubs
- 44 The problem of thermal pollution can be alleviated by using
- (1) Cooling ponds
  - (2) Cooling towers
  - (3) More efficient electricity generating plants
  - (4) All of the above
- 45 Vermicompost is
- (1) Biofertilizer produced using Microbes
  - (2) Biofertilizer produced using Algae
  - (3) Biofertilizer produced using Earthworm
  - (4) Biofertilizer produced using bacteria

- 46 The area upto 100 meters around the premises such as hospitals, educational institutions and courts are
- (1) Atrophic zones
  - (2) Silence zones
  - (3) EMP zones
  - (4) Irrigation zones
- 47 Radioactive waste management in our country is governed under :
- (1) Hazardous Waste (Management, Handling and Trans-boundary Movement)
  - (2) Atomic Energy Act, 1962
  - (3) Environment (Protection) Act, 1986
  - (4) Biomedical Waste (Management & Handling) Rules 1998
- 48 In biogeochemical cycle, a chemical element or molecule moves through
- (1) Biosphere and lithosphere
  - (2) Biosphere, lithosphere and atmosphere
  - (3) Biosphere, lithosphere, atmosphere and hydrosphere
  - (4) Lithosphere and atmosphere
- 49 Algal biofertilizer consists of
- (1) Blue green algae and Azolla
  - (2) Blue green algae and Earthworm
  - (3) Algal biomass and Mycorrhiza
  - (4) Green algae and Rhizobia
- 50 The soil type which is good for agriculture is
- (1) Podzols
  - (2) Latosols
  - (3) Serpent soil
  - (4) Solonchak



*SPACE FOR ROUGH WORK*

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