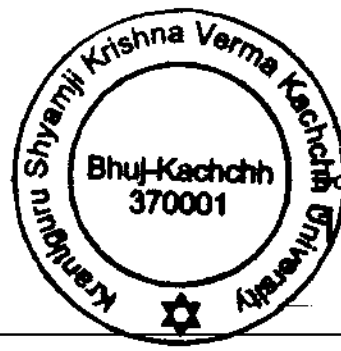


PHDKU18



Subject Code : **20-Life Science**

તમને કહેવામાં ન આવે ત્યાં સુધી પ્રશ્નપુસ્તિકા ખોલવી નહીં.  
Do not open the Question Booklet until ask to do so.



A

Booklet Sr. No.  
**770663**  
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 વર્તુળ 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 કસૂટ થયેથી શિસ્તભંગનાં પગલાં ગણી પરીક્ષા માટે જે તે ઉમેદવારને ગેરલાયક ઠરાવવામાં આવશે.

- 1 Which of the nutrients do not provide energy for animals ?
- (1) Fats (2) Carbohydrates  
(3) Proteins (4) Vitamins
- 2 Which of the following bacteria can grow in Canned food ?
- (1) Obligate aerobes – *Clostridium botulinum*  
(2) Acidophile – *Thiobacillus acidophilus*  
(3) Monophiles – *Pesudomonas maltophilia*  
(4) Obligate acrobe – *mycobacterium*
- 3 Night blooming flowers are generally;
- (1) light weight  
(2) scented  
(3) bright coloured  
(4) bloom in cluster
- 4 Pollination in Lotus is carried out by
- (1) Wind (2) Water  
(3) Insects (4) All of these
- 5 Which of this has ladder like nervous system ?
- (1) Arthropod (2) Platyhelminthes  
(3) Coelentrate (4) Mollusc

- 6 In his classic experiment of pea plants, Mendel did not use :
- (1) Seed colour (2) Pod length  
(3) Seed shape (4) Flower position
- 7 The term 'linkage' was given by;
- (1) T. Morgan (2) T. Boveri  
(3) G. Mendel (4) W. Sutton
- 8 Which of the Following is **NOT** a Bacterial disease ?
- (1) Tuberculosis (2) Typhoid  
(3) Tetanus (4) Small pox
- 9 Methanogens have a unique form of energy metabolism in which hydrogen( $H_2$ ) is used to reduce
- (1)  $CH_4$  to  $CO_2$  (2)  $CO_2$  to  $CH_4$   
(3)  $NO_2$  to  $NO_3$  (4)  $NO_3$  to  $NO_2$
- 10 In hydrothermal vents, which of these is used by bacterial community to keep them live and thriving via chemosynthesis process
- (1) Oxygen (2) Light  
(3) Hydrogen sulphide (4) Carbon dioxide

- 11 Most red algae (division Rhodophyta) live in \_\_\_\_\_
- (1) Warm coastal water of ocean
  - (2) Fresh water streams
  - (3) Cool coastal water of oceans
  - (4) Fresh water of lakes
- 12 Most animal phyla occurs in \_\_\_\_\_
- (1) Terrestrial habitat                      (2) Marine habitat
  - (3) Fresh water habitat                      (4) Aerial habitat
- 13 In all molluscs except bivalves, there is tongue like, toothed structure that is used to scrape off food from the surface of rocks and to send it to digestive tract. This structure is called a \_\_\_\_\_
- (1) Radula                                      (2) Palp
  - (3) Metanephridium                              (4) Ctenidium
- 14 Viruses are considered non-living because
- (1) They do not locomote
  - (2) Their nucleic acids do not code for protein
  - (3) They do not mutate and, therefore, do not adapt
  - (4) They cannot reproduce independently
- 15 Lysosome function in \_\_\_\_\_
- (1) Intracellular digestion                      (2) Lipid synthesis
  - (3) Processing and packaging                      (4) Protein synthesis

- 16 Which of the following is a common edible sugar ?
- (1) Lactose (2) Sucrose  
(3) Glucose (4) Fructose
- 17 Keratin is a structural protein of \_\_\_\_\_
- (1) Hair (2) Wood  
(3) Leaf (4) Muscle
- 18 Which of the following is **not a similarity** of mitochondria and chloroplast ?
- (1) Both make ATP  
(2) Both possess their own DNA  
(3) Both have an envelope of double unit membrane  
(4) Both capture solar energy and convert it into chemical energy
- 19 The species is isolated spatially by barriers like ocean, mountains and remain distinct for long time. Due to this it may develop slight distinct characters. Such isolation is called;
- (1) Mutation  
(2) Induced isolation  
(3) Geographical isolation  
(4) Reproductive isolation
- 20 Cell membrane in animals is composed mainly of molecules of
- (1) Lipids (2) Proteins  
(3) Lipids and proteins (4) Carbohydrates

- 21 Mitochondria are most abundant in
- (1) Heart muscles
  - (2) Brain
  - (3) Tongue
  - (4) Bone marrow
- 22 In DNA replication, the helix is unwound by which type of enzyme ?
- (1) Topoisomerase
  - (2) Primase
  - (3) DNA polymerase
  - (4) Helicase
- 23 The hereditary material present in the bacterium *E.coli* is
- (1) Protein
  - (2) RNA
  - (3) Double stranded DNA
  - (4) Single stranded DNA
- 24 Double hydrogen bond occurs in DNA between
- (1) Adcnine and Thymine
  - (2) Thymine and Uracil
  - (3) Thymine and Cytosine
  - (4) Adenine and Guanine
- 25 Initiation codon in eukaryotes is
- (1) UAA
  - (2) AUG
  - (3) AGU
  - (4) GAU

- 26 Plant hormone responsible for stem elongation is
- (1) Cytokinin (2) Gibberlin  
(3) Ethylene (4) Auxin
- 27 Artificial ripening of fruit is accomplished by using
- (1) Indole acetic acid (2) Zeatin  
(3) Ethylene gas (4) NaCl
- 28 FSH (Follicle stimulating hormone) and LH (Luteinizing hormone) are collectively known as
- (1) Gonadotropic hormones  
(2) Emergency hormones  
(3) Stress hormones  
(4) Neural hormones
- 29 Cyanobacter which are commonly seen in lakes, oceans, ponds etc are also known as
- (1) Red algae (2) Brown algae  
(3) Golden brown algae (4) Blue-green algae
- 30 Archaeopteryx is a connecting link between :
- (1) Amphibians and reptiles (2) Reptiles and birds  
(3) Birds and mammals (4) Amphibians and birds

- 31 Which of these are water soluble vitamins
- (1) A and D (2) C and D  
(3) B and C (4) A and C
- 32 Bryophytes are non vascular plants, i.e. they do not have \_\_\_\_\_
- (1) Xylem (2) Phloem  
(3) Both xylem and phloem (4) None of the above
- 33 Mutation caused due to loss of some portion of DNA is called
- (1) Addition mutation (2) Deletion mutation  
(3) Insertion (4) Substitution
- 34 In water bodies with sewage pollution, fishes dies because of
- (1) Decrease in Dissolved oxygen due to microbial activity  
(2) Pathogens released by sewage  
(3) Foul smell  
(4) Clogging of their gills by solid substance
- 35 A population contains all the \_\_\_\_\_
- (1) Organisms that are interacting with one another in one area  
(2) Organisms of same species living in one area  
(3) Similar looking of organisms in one area  
(4) All organism living in one area



- 36 Observe the given food chain : Producers → herbivores → Carnivores  
→ Top carnivores. Which level contains the most energy ?
- (1) Herbivores (2) Carnivores  
(3) Producers (4) Top carnivores
- 37 In marine ecosystem, which of the given intertidal area will have highest diversity ?
- (1) Sandy intertidal area (2) Rocky intertidal area  
(3) Muddy intertidal area (4) Surf zone
- 38 The process in which all living cells, viruses and spores are completely destroyed from an object is called
- (1) Pasteurization (2) Disinfection  
(3) Sterilization (4) Antisepsis
- 39 Which of the following is /are concerned with green house effect ?
- (1) CH<sub>4</sub> (methane)  
(2) CO<sub>2</sub> (Carbon dioxide)  
(3) CFC (Chlorofluoro carbon)  
(4) All of these
- 40 As per IUCN, important grassland species-The Great Indian Bustard (*Ardeotis nigriceps*) falls under
- (1) Schedule-I (2) Endangered  
(3) Critically endangered (4) Near threatened

- 41 Gulf of Kachchh is also famous for its one of the largest mangrove cover. Which of the following mangrove species is dominant in this area?
- (1) *Avicennia marina*                      (2) *Avicennia officinalis*  
(3) *Ceriops tagal*                              (4) *Rhizophora mucronata*
- 42 Bacteria that get their energy from fermentation and from whom oxygen is lethal are called \_\_\_\_\_
- (1) Obligate anaerobes                      (2) Obligate aerobes  
(3) Facultative anaerobes                      (4) Facultative aerobes
- 43 In a population  $N=1500$ , if the birth rate is 42 per year and the death rate is 27 per year, the rate of natural increase will be \_\_\_\_\_
- (1) 0.1%    (2) 1%  
(3) 42%    (4) 55%
- 44 A close relation between coral and zooxanthellae algae is well known wherein the algae lives inside the coral. Which out of the following relationship can be named in this case?
- (1) Commensalism                              (2) Prey predator relationship  
(3) Symbiosis                                      (4) Parasitism
- 45 Which of these are primary producers in marine ecosystem ?
- (1) Fishes    (2) Marine mammals  
(3) Phytoplanktons                              (4) Sea grass

- 46 The branch of biology which deals with study of fossils is called \_\_\_\_\_
- (1) Palentology (2) Ornithology  
(3) Fossilogy (4) Endology
- 47 As per the forest classification of India, major forest type Gir forest falls under;
- (1) Moist deciduous forest (2) Dry deciduous forest  
(3) Grassland (4) Shrub forest
- 48 Many fishes and aquatic organisms possess lateral line organ. The function of this organ is to
- (1) Sense surrounding light  
(2) Sense surrounding pressure and detect movement/vibration  
(3) Sense gravitational field and smell  
(4) None of the above
- 49 The organic and inorganic materials in all the organisms in the diagram will eventually return to the environment by the action of
- (1) Decomposers (2) Producers  
(3) Primary consumers (4) Top carnivores
- 50 Which of the following statement is / are true in case of deep sea animals ?
- (1) They have flat bodies and ventral mouth  
(2) They have poor vision, good tactile reception  
(3) Many of them show properties of bioluminescence  
(4) All of the above

