



UNIVERSITY OF MYSORE

Postgraduate Entrance Examination June/July 2017

SUBJECT CODE : **48**

QUESTION BOOKLET NO.

Entrance Reg. No.

116890

QUESTION BOOKLET

(Read carefully the instructions given in the Question Booklet)

COURSE : **M.Sc.**

SUBJECT : **Environmental Science**

MAXIMUM MARKS : 50

MAXIMUM TIME : ONE HOUR

(Including initial 10 minutes for filling O.M.R. Answer sheet)

INSTRUCTIONS TO THE CANDIDATES

1. The sealed questions booklet containing 50 questions enclosed with O.M.R. Answer Sheet is given to you.
2. Verify whether the given question booklet is of the same subject which you have opted for examination.
3. Open the question paper seal carefully and take out the enclosed O.M.R. Answer Sheet outside the question booklet and fill up the general information in the O.M.R. Answer sheet. If you fail to fill up the details in the form of alphabet and signs as instructed, you will be personally responsible for consequences arising during scoring of your Answer Sheet.
4. During the examination:
 - a) Read each question carefully.
 - b) Determine the Most appropriate/correct answer from the four available choices given under each question.
 - c) Completely darken the relevant circle against the Question in the O.M.R. Answer Sheet. For example, in the question paper if "C" is correct answer for Question No.8, then darken against Sl. No.8 of O.M.R. Answer Sheet using Blue/Black Ball Point Pen as follows:

Question No. 8. (A) (B) (C) (D) (Only example) (Use Ball Pen only)

5. Rough work should be done only on the blank space provided in the Question Booklet. Rough work should not be done on the O.M.R. Answer Sheet.
6. If more than one circle is darkened for a given question, such answer is treated as wrong and no mark will be given. See the example in the O.M.R. Sheet.
7. The candidate and the Room Supervisor should sign in the O.M.R. Sheet at the specified place.
8. Candidate should return the original O.M.R. Answer Sheet and the university copy to the Room Supervisor after the examination.
9. Candidate can carry the question booklet and the candidate copy of the O.M.R. Sheet.
10. The calculator, pager and mobile phone are not allowed inside the examination hall.
11. **If a candidate is found committing malpractice, such a candidate shall not be considered for admission to the course and action against such candidate will be taken as per rules.**

INSTRUCTIONS TO FILL UP THE O.M.R. SHEET

1. There is only one most appropriate/correct answer for each question.
2. For each question, only one circle must be darkened with BLUE or BLACK ball point pen only. Do not try to alter it.
3. Circle should be darkened completely so that the alphabet inside it is not visible.
4. Do not make any stray marks on O.M.R. Sheet.

ಗಮನಿಸಿ : ಸೂಚನೆಗಳ ಕನ್ನಡ ಆವೃತ್ತಿಯು ಈ ಪುಸ್ತಕದ ಹಿಂಭಾಗದಲ್ಲಿ ಮುದ್ರಿಸಲ್ಪಟ್ಟಿದೆ.

- 1) No two organisms can occupy the same ecological niche. This was enunciated by
- (A) Elton (B) Shelford
(C) Gause (D) Darwin
- 2) Gamma rays are
- (A) Low energy waves
(B) High energy protons
(C) High energy electron
(D) High energy electromagnetic waves
- 3) The fresh water constitute about — of earth's water
- (A) 2.6%
(B) 3.6%
(C) 4.6%
(D) 5.6%
- 4) The permanent decrease in population occurs due to —
- (A) Migration
(B) Emigration
(C) Natality
(D) Mortality
- 5) The actual number of births occurring under the existing conditions of environment is called —
- (A) Potential natality
(B) Reproductive potential
(C) Biotic potential
(D) Realized natality
- 6) The main constituent of CNG is _____.
- (A) Methane (B) Butane
(C) Ethane (D) Propane

- 7) The ecosystem living in the alpine zone between Taiga and Polar ice is called as
- (A) Savanna (B) Tundra
(C) Autotrophic (D) Grassland
- 8) A habitat that is in perfect balance with the species occupying, it is called
- (A) Biosphere
(B) Edge Effect
(C) Ecotone
(D) Niche
- 9) Lentic biota includes
- (A) Plants and Animals in Stagnant Water
(B) Flora and Fauna of Desert
(C) Flora and Fauna of Sea Water
(D) Flora and Fauna of Forest
- 10) The predominance of one or more species in a plant (or animal) community is referred as
- (A) Stability (B) Dominance
(C) Diversity (D) None
- 11) The study of periodical phenomenon of plants at the time of flowering in relation to climate is called
- (A) Palynology
(B) Meteorology
(C) Phenology
(D) Pedology
- 12) The heat that caused melting in the Earth's early history was supplied from which of the following events or causes?
- (A) Volcanic activity and radioactivity
(B) Solar heating and volcanic activity
(C) A large impact event and radioactivity
(D) A large impact event and solar heating

- 13) Volcanism is associated with which of the following types of plate boundaries?
- (A) Convergent plate boundaries
 - (B) Divergent plate boundaries
 - (C) Transform fault plate boundaries
 - (D) Divergent and convergent plate boundaries
- 14) In Nitrogen cycle, elemental nitrogen returned to the atmosphere by the following process.
- (A) Nitrogen fixing bacteria
 - (B) Nitrogen fixation by blue-green algae
 - (C) Nitrification process
 - (D) Denitrification
- 15) Which is the term for water that is intermediate in salinity between freshwater and seawater?
- (A) Hard Water
 - (B) Soft Water
 - (C) Connate Water
 - (D) Brackish Water
- 16) The true statement about "Green House Effect" is that is.
- (A) Caused by combination of many gases
 - (B) Caused by CO_2
 - (C) Caused by CO_2 , CFC, CH_4 and NO_2 gases
 - (D) None of these
- 17) Ozone is formed in the upper atmosphere by a photochemical reaction with.
- (A) Ultra violet solar radiation
 - (B) Infra red radiation
 - (C) Visible light
 - (D) Gamma radiation

- 18) What is Kyoto Protocol?
- (A) It is an agreement among countries to take steps for reducing global warming
 - (B) It is an agreement among countries to take steps for reducing acid rain
 - (C) It is an agreement among countries to take steps for planting trees to control pollution
 - (D) It is an agreement among countries to start using nuclear energy
- 19) Acid rain is formed due to contribution from the following pair of gases.
- (A) Methane and ozone
 - (B) Oxygen and nitrous oxide
 - (C) Methane and sulphur dioxide
 - (D) Carbon dioxide and sulphur dioxide
- 20) Which one is more toxic?
- (A) Mercury
 - (B) Iron
 - (C) Carbon
 - (D) Silver
- 21) A free living bacteria capable of fixing atmospheric Nitrogen is
- (A) *Staphylococcus*
 - (B) *Streptococcus*
 - (C) *Azotobactor*
 - (D) *Bacillus*
- 22) A bacterium which is commonly present in the intestine of man and animal is
- (A) *Bacillus brevis*
 - (B) *Escherichia coli*
 - (C) *Streptococcus lactis*
 - (D) *Pseudomonas citiri*
- 23) The Plankton is
- (A) Red algae
 - (B) A layer of organic matter
 - (C) Floating fauna
 - (D) Passively floating flora and fauna chiefly of microscopic organism.

- 24) According to WHO, the soft water has zero to _____ milligram per litre as CaCO_3 .
- (A) 30 (B) 60
(C) 90 (D) 120
- 25) An organism having Cytoplasm, DNA, and RNA but no cell wall is
- (A) Cyanobactrium
(B) Mycoplasma
(C) Bacterium
(D) Virus
- 26) Red data book is published by
- (A) BNHS
(B) WWF
(C) IUCN
(D) Green peace
- 27) Biosensor consists of
- (A) Analyte
(B) Transducer
(C) Both A & B
(D) Only B
- 28) Plasmid is a
- (A) Bacteriophage
(B) DNA molecule incorporated in bacterial chromosome
(C) DNA molecule present in mitochondria
(D) A small circular DNA molecule capable of self replication
- 29) Which gas has a major share in biogas
- (A) Nitrogen
(B) Methane
(C) Carbon monoxide
(D) Hydrogen

- 30) The Genetically modified microorganisms used for removal of oil spill is
- (A) *Pseudomonas putida*
 - (B) *Bacillus thuringensis*
 - (C) *Bacillus subtilis*
 - (D) *Pseudomonas fluorescens*
- 31) The world faces an energy crisis because.....
- (A) World demand for energy will increase
 - (B) World oil production will peak and begin to decline
 - (C) Shortage and the resulting escalation of prices can shock the economic and political order
 - (D) all of the above
- 32) Fissile material is the one which is capable to sustain.....
- (A) Fission reaction
 - (B) Fusion reaction
 - (C) Nuclear fission chain reaction
 - (D) Nuclear fusion chain reaction
- 33) Level of noise recommended in most countries is
- (A) 30-40 dB
 - (B) 95-100 dB
 - (C) 85-90 dB
 - (D) 75-80 Db
- 34) Which of the radioactive material is largely associated with bone cancer
- (A) Radium-226
 - (B) Strontium-90
 - (C) Thorium-232
 - (D) Iodine
- 35) The pollution which does not persistent harm to life supporting system is
- (A) Noise pollution
 - (B) Radiation pollution
 - (C) Organochlorine pollution
 - (D) All of these

- 36) Flocculators are
- (A) Sedimentation units
 - (B) Instantaneous mixing devices
 - (C) Slow stirring mechanisms
 - (D) Chemical feeding systems.
- 37) Absence of fish along a river indicates
- (A) Zone of degradation
 - (B) Zone of active decomposition
 - (C) Zone of recovery
 - (D) All zones of pollution
- 38) Last step in biogas production is facilitated by:
- (A) Decomposer imicroorganisms
 - (B) Fermentative micro organisms
 - (C) Thermoacid ophiles
 - (D) Methanogens
- 39) MPN involves...
- a) Standard dilution
 - b) Direct count
 - c) Viable microbes
 - d) Microbial growth
- (A) a and b
 - (B) a, c and d
 - (C) a and d
 - (D) b only
- 40) Which of the following is not a water borne disease?
- (A) Polio
 - (B) Jaundice
 - (C) Malaria
 - (D) Typhoid

- 41) Increased defoliation in plants is caused by
- (A) Global Warming
 - (B) Acid Rains
 - (C) Ground Pollution
 - (D) Ozone Depletion
- 42) Soil is considered asresource
- (A) Indestructible
 - (B) Destructible and non renewable
 - (C) Destructible and renewable
 - (D) None of these
- 43) Azolla is used as biofertilizer as it has
- (A) Rhizobium
 - (B) Cyanobacteria
 - (C) Mycorrhiza
 - (D) Large Quantity of Humus
- 44) Which of the following is not a fertilizer?
- (A) Nitrogen Sulphate
 - (B) Potash
 - (C) Ammonium sulphate
 - (D) Super phosphate
- 45) Which among the following is the most abundant green house gas in the earth's atmosphere?
- (A) Water Vapour
 - (B) Carbon Dioxide
 - (C) Tropospheric Ozone
 - (D) Sulphur Dioxide

46. The monomers of DNA are bonded together to form
- (A) Polypeptides
 - (B) Polynucleotides
 - (C) Polypentoses
 - (D) Polyphosphates
- 47) The rate of degradation and microbes resistance to toxic pollutants remain better when the
- (A) Mixed Cell Population is Used
 - (B) Individual Cell is Used
 - (C) Mixed Cell Population Along With Metals is Used
 - (D) Individual Cell Along With Metal is Used
- 48) A non directed physico-chemical interaction between heavy metal ions and microbial surface is called
- (A) Biotransformation
 - (B) Biosorption
 - (C) Bioconversion
 - (D) Biomining
- 49) Oil discharged from a petroleum refinery is removed by
- (A) Aerated Lagoons
 - (B) Gravity Separator Having Oil Skimming Devices
 - (C) Trickling Filters
 - (D) Biological Oxygen Pond
- 50) Most effective pesticides are
- (A) Carbamates
 - (B) Organophosphates
 - (C) Organo Chlorines
 - (D) Chlorinated Hydrocarbons



Rough Work

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

1. ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆಯ ಜೊತೆಗೆ 50 ಪ್ರಶ್ನೆಗಳನ್ನು ಹೊಂದಿರುವ ಮೊಹರು ಮಾಡಿದ ಪ್ರಶ್ನೆ ಪುಸ್ತಕವನ್ನು ನಿಮಗೆ ನೀಡಲಾಗಿದೆ.
2. ಕೊಟ್ಟಿರುವ ಪ್ರಶ್ನೆ ಪುಸ್ತಕವು, ನೀವು ಪರೀಕ್ಷೆಗೆ ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡಿರುವ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದ್ದೇ ಎಂಬುದನ್ನು ಪರಿಶೀಲಿಸಿರಿ.
3. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮೊಹರು ಜಾಗ್ರತೆಯಿಂದ ತೆರೆಯಿರಿ ಮತ್ತು ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಿಂದ ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆಯನ್ನು ಹೊರಗೆ ತೆಗೆದು, ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಸಾಮಾನ್ಯ ಮಾಹಿತಿಯನ್ನು ತುಂಬಿರಿ. ಕೊಟ್ಟಿರುವ ಸೂಚನೆಯಂತೆ ನೀವು ನಮೂನೆಯಲ್ಲಿನ ವಿವರಗಳನ್ನು ತುಂಬಲು ವಿಫಲರಾದರೆ, ನಿಮ್ಮ ಉತ್ತರ ಹಾಳೆಯ ಮೌಲ್ಯಮಾಪನ ಸಮಯದಲ್ಲಿ ಉಂಟಾಗುವ ಪರಿಣಾಮಗಳಿಗೆ ವೈಯಕ್ತಿಕವಾಗಿ ನೀವೇ ಜವಾಬ್ದಾರಾಗಿರುತ್ತೀರಿ.
4. ಪರೀಕ್ಷೆಯ ಸಮಯದಲ್ಲಿ:
 - a) ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಯನ್ನು ಜಾಗ್ರತೆಯಿಂದ ಓದಿರಿ.
 - b) ಪ್ರತಿ ಪ್ರಶ್ನೆಯ ಕೆಳಗೆ ನೀಡಿರುವ ನಾಲ್ಕು ಲಭ್ಯ ಆಯ್ಕೆಗಳಲ್ಲಿ ಅತ್ಯಂತ ಸರಿಯಾದ/ ಸೂಕ್ತವಾದ ಉತ್ತರವನ್ನು ನಿರ್ಧರಿಸಿ.
 - c) ಓ.ಎಂ.ಆರ್. ಹಾಳೆಯಲ್ಲಿನ ಸಂಬಂಧಿಸಿದ ಪ್ರಶ್ನೆಯ ವೃತ್ತಾಕಾರವನ್ನು ಸಂಪೂರ್ಣವಾಗಿ ತುಂಬಿರಿ. ಉದಾಹರಣೆಗೆ, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯಲ್ಲಿ ಪ್ರಶ್ನೆ ಸಂಖ್ಯೆ 8ಕ್ಕೆ "C" ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದರೆ, ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್ ಬಳಸಿ ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆಯ ಕ್ರಮ ಸಂಖ್ಯೆ 8ರ ಮುಂದೆ ಈ ಕೆಳಗಿನಂತೆ ತುಂಬಿರಿ:
 ಪ್ರಶ್ನೆ ಸಂಖ್ಯೆ 8.(A) (B) (C) (D) (ಉದಾಹರಣೆ ಮಾತ್ರ) (ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರ ಉಪಯೋಗಿಸಿ)
5. ಉತ್ತರದ ಪೂರ್ವಸಿದ್ಧತೆಯ ಬರವಣಿಗೆಯನ್ನು (ಚಿತ್ತು ಕೆಲಸ) ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯಲ್ಲಿ ಒದಗಿಸಿದ ಖಾಲಿ ಜಾಗದಲ್ಲಿ ಮಾತ್ರವೇ ಮಾಡಬೇಕು (ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾಡಬಾರದು).
6. ಒಂದು ನಿರ್ದಿಷ್ಟ ಪ್ರಶ್ನೆಗೆ ಒಂದಕ್ಕಿಂತ ಹೆಚ್ಚು ವೃತ್ತಾಕಾರವನ್ನು ಗುರುತಿಸಲಾಗಿದ್ದರೆ, ಅಂತಹ ಉತ್ತರವನ್ನು ತಪ್ಪು ಎಂದು ಪರಿಗಣಿಸಲಾಗುತ್ತದೆ ಮತ್ತು ಯಾವುದೇ ಅಂಕವನ್ನು ನೀಡಲಾಗುವುದಿಲ್ಲ. ಓ.ಎಂ.ಆರ್. ಹಾಳೆಯಲ್ಲಿನ ಉದಾಹರಣೆ ನೋಡಿ.
7. ಅಭ್ಯರ್ಥಿ ಮತ್ತು ಕೊಠಡಿ ಮೇಲ್ವಿಚಾರಕರು ನಿರ್ದಿಷ್ಟಪಡಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ಓ.ಎಂ.ಆರ್. ಹಾಳೆಯ ಮೇಲೆ ಸಹಿ ಮಾಡಬೇಕು.
8. ಅಭ್ಯರ್ಥಿಯು ಪರೀಕ್ಷೆಯ ನಂತರ ಕೊಠಡಿ ಮೇಲ್ವಿಚಾರಕರಿಗೆ ಮೂಲ ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಹಾಳೆ ಮತ್ತು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಪ್ರತಿಯನ್ನು ಹಿಂದಿರುಗಿಸಬೇಕು.
9. ಅಭ್ಯರ್ಥಿಯು ಪ್ರಶ್ನೆ ಪುಸ್ತಕವನ್ನು ಮತ್ತು ಓ.ಎಂ.ಆರ್. ಅಭ್ಯರ್ಥಿಯ ಪ್ರತಿಯನ್ನು ತಮ್ಮ ಜೊತೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.
10. ಕ್ಯಾಲ್ಕುಲೇಟರ್, ಪೇಜರ್ ಮತ್ತು ಮೊಬೈಲ್ ಫೋನ್‌ಗಳನ್ನು ಪರೀಕ್ಷಾ ಕೊಠಡಿಯ ಒಳಗೆ ಅನುಮತಿಸಲಾಗುವುದಿಲ್ಲ.
11. ಅಭ್ಯರ್ಥಿಯು ದುಷ್ಕೃತ್ಯದಲ್ಲಿ ತೊಡಗಿರುವುದು ಕಂಡುಬಂದರೆ, ಅಂತಹ ಅಭ್ಯರ್ಥಿಯನ್ನು ಕೋರ್ಸ್‌ಗೆ ಪರಿಗಣಿಸಲಾಗುವುದಿಲ್ಲ ಮತ್ತು ನಿಯಮಗಳ ಪ್ರಕಾರ ಇಂತಹ ಅಭ್ಯರ್ಥಿಯ ವಿರುದ್ಧ ಕ್ರಮ ಕೈಗೊಳ್ಳಲಾಗುವುದು.
 ಓ.ಎಂ.ಆರ್. ಹಾಳೆಯನ್ನು ತುಂಬಲು ಸೂಚನೆಗಳು
 1. ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೆ ಒಂದೇ ಒಂದು ಅತ್ಯಂತ ಸೂಕ್ತವಾದ/ಸರಿಯಾದ ಉತ್ತರವಿರುತ್ತದೆ.
 2. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೆ ಒಂದು ವೃತ್ತವನ್ನು ಮಾತ್ರ ನೀಲಿ ಅಥವಾ ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್‌ನಿಂದ ಮಾತ್ರ ತುಂಬತಕ್ಕದ್ದು. ಉತ್ತರವನ್ನು ಮಾರ್ಪಡಿಸಲು ಪ್ರಯತ್ನಿಸಬೇಡಿ.
 3. ವೃತ್ತದೊಳಗಿರುವ ಅಕ್ಷರವು ಕಾಣದಿರುವಂತೆ ವೃತ್ತವನ್ನು ಸಂಪೂರ್ಣವಾಗಿ ತುಂಬುವುದು.
 4. ಓ.ಎಂ.ಆರ್. ಹಾಳೆಯಲ್ಲಿ ಯಾವುದೇ ಅನಾವಶ್ಯಕ ಗುರುತುಗಳನ್ನು ಮಾಡಬೇಡಿ.

Note : English version of the instructions is printed on the front cover of this booklet.

