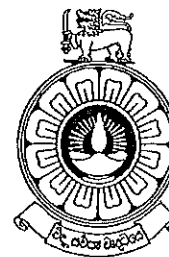


THE OPEN UNIVERSITY OF SRI LANKA  
CENTRE FOR ENVIRONMENTAL STUDIES AND  
SUSTAINABLE DEVELOPMENT



M.Sc. IN ENVIRONMENTAL SCIENCES- LEVEL 10 - 2018/19

PHPA309– Cleaner Production

NO BOOK TEST - 01

DATE: 23<sup>rd</sup> March 2019

DURATION: ONE HOUR  
TIME: 1.00 pm – 2.00 pm

REGISTRATION NO: .....

This question paper consists of eight (08) pages with twenty (20) Multiple Choice Questions (Part A) and Three (03) Short Answer Questions (Part B).

**IMPORTANT INSTRUCTIONS TO CANDIDATES**

- Write your Registration Number in the space provided.
- Answer **ALL** questions.
- **Multiple Choice Questions (Part A):** Indicate answers in the answer sheet provided by placing a cross (X) in the relevant cage.
- **Short Answer Questions (Part B):** Write answers within the space provided.
- Do not remove any page/part of this question paper from the examination hall.



M.Sc. IN ENVIRONMENTAL SCIENCES- LEVEL 10 - 2018/19  
PHPA309 – Cleaner Production  
NO BOOK TEST - 01

REGISTRATION NO: .....

ANSWER SHEET FOR PART A

Q. No.	(a)	(b)	(c)	(d)
1.1				
1.2				
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**M.Sc. IN ENVIRONMENTAL SCIENCES- LEVEL 08 - 2017/18**  
**PHPA309– Cleaner Production**

**NO BOOK TEST - 01**

**Part A – Multiple Choice Questions**

*(40 marks)*

Choose the most suitable answer and indicate with an 'X' in the answer sheet provided.

- 1) Industrial environmental management has evolved from:
  - a) Control to prevention to dilution
  - b) Prevention to dilution to control
  - c) Dilution to control to prevention
  - d) Control to dilution to prevention
  
- 2) The first step in improving cleaner production in industry is a change in:
  - a) Technology
  - b) Customer preference systems
  - c) Attitudes
  - d) Legislation on recycling
  
- 3) Cleaner Production is an approach to achieve
  - a) Higher profits through improved resource utilization.
  - b) Reduce environmental degradation caused by wastes
  - c) Sustainable economic development
  - d) All three of them
  
- 4) According to Cleaner Production approach the waste is a
  - a) Residue from production processes which should be treated and disposed
  - b) Unwanted material from industrial activities with no economic value
  - c) Valuable resource at a wrong place , wrong form or wrong media but with economic value
  - d) Unusable portion of resources from an industrial process which should be disposed



- 5) The three Key strategies for waste prevention in Cleaner Production are
- Source reduction, resource recovery and product redesign
  - Reduce, reuse and recycle
  - Recycling, treatment and disposal
  - Dilution, treatment and disposal
- 6) The three main prerequisites to do CP are
- Top management commitment, engagement of all employees, allocation of funds
  - Top management commitment, engagement of all employees, organized approach
  - Top management commitment, hiring a consultant and develop a methodology
  - Engagement of all employees, hiring a consultant, organized Approach
- 7) Sustainable policy options should look into
- Maximizing economic growth
  - Balancing triple-bottom line development
  - Minimizing ecological impact
  - A & C only
- 8) The three pillars of sustainable development are
- Economy, Politics and Environment
  - Environment, Society and Culture
  - Economy, Environment and Society
  - Politics, Culture and Economy
- 9) Which of the following cannot be considered as a sustainability principle
- Sustainable use of natural resources
  - Protection of ecological balance
  - End of pipe treatment
  - Sustainable consumption to eliminate pollution



- 10) Two main outputs of RIO conference are,
- Rio declaration and A ban on new mercury mines
  - Rio declaration and SAICM
  - Agenda 21 and SAICM
  - Rio declaration and Agenda 21
- 11) What are the MEA s aimed at protecting of Atmosphere,
- Montreal protocol, UNFCCC, Kyoto protocol
  - Montreal protocol, Kyoto protocol ,Rotterdam Convention
  - Rotterdam Convention, Basel Convention, Stockholm Convention
  - Vienna Convention, Kyoto protocol, Minamata Convention on Mercury
- 12) The core environmental conventions and related international agreements basically divided in to the following clusters except?
- Atmosphere
  - Health and safety
  - Chemical and hazardous waste
  - Regional Seas
- 13) Which among the following multilateral convention seeks to protect the human health and environment from Persistent Organic Pollutants (POPs)?
- Bonn Convention
  - Stockholm Convention
  - Rotterdam Convention
  - Basel Convention
- 14) With which of the following, the Agenda 21' of Rio Summit, 1992 is related to
- Sustainable development
  - Combating the consequences of population explosion
  - Mitigation norms of Green House Gases (GHGs) emission
  - Technology transfer mechanism to developing countries for 'clean-energy' production.



- 15) Which among the following terms of utmost significance in the dynamics of resource management was coined in the 'Brundtland Commission Report'?
- e) Polluter-Pays Principle
  - f) Sustainable development
  - g) Inclusive Growth
  - h) Carrying Capacity Show Answer
- 16) What is group of Multilateral Agendas which related to chemicals and hazardous waste
- a) Basel Convention, Rotterdam Convention, Ramsar Convention
  - b) Basel Convention, Rotterdam Convention ,Stockholm Convention
  - c) Rotterdam Convention ,Stockholm Convention, Kyoto Protocol
  - d) Stockholm Convention, Kyoto Protocol, Ramsar Convention
- 17) Which of the following is not true for the Environmental Policy
- a) Defined by Top Management
  - b) Documented, implemented & maintained
  - c) Communicated to all persons working for or on behalf of organization
  - d) Not available to the public
- 18) ISO 14001 is:
- a) A particularly harmful global warming gas
  - b) A European Union regulation on pollution abatement
  - c) A water quality regulation set out under the UK 1996 Environment Act
  - d) An international standard setting out best practice for carrying out audits by companies of their environmental management systems and policies
- 19) What is product oriented environmental management system?
- a) ISO 14001
  - b) ISO 14010
  - c) ISO 14031
  - d) ISO 14040



20) Earth Day is an annual event, on which day events worldwide are held to demonstrate support for environmental protection. This annual event celebrated on:

- e) 22nd of March
- f) 5th of June
- g) 22nd of April
- h) 19th of March

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**Part B –Short Answer Questions**

*(60 marks)*

**Write answers in the space provided.**

1) Briefly explain what Cleaner Production is

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2) Define the term "Sustainable Development"

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3.) What are the advantages of Cleaner Production over end of pipe treatment?

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-End-

