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| **Scheme of Valuation/Answer Key**(Scheme of evaluation (marks in brackets) and answers of problems/key) |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**FIFTH SEMESTER B.TECH DEGREE EXAMINATION, JULY 2019 |
| **Course Code: CE371** |
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| **Course Name: ENVIRONMENT AND POLLUTION** |

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| Max. Marks: 100 |  | Duration: 3 Hours |
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| **PART A**  |
|  |  | ***Answer any two full questions, each carries 15 marks.*** | Marks |
| 1 | a) | Maintenance of a rough stability of carbon levels in the environment without human influence | (5) |
|  | b) | main causes for the increase in environmental pollution of today’s world( minimum 5 causes)  | (5) |
|  | c) | Listing of the five basic requirements for maintaining a healthy environment. | (5) |
| 2 | a) | Effect of suspended particulate matters present in air:on human beings- 3 marks;on plants 1 mark; and on materials- 1 mark | (5) |
|  | b) | photochemical smog- 1 mar;formation-2 marks;impacts- 2 marks | (5) |
|  | c) | Behaviour of stack gases from a thermal power plant located on the sea cost during: day time-2.5 marks; night time- 2.5 marks | (5) |
| 3 | a) | Ecosystem- 1 mark; components- 2 marks | (3) |
|  | b) | Meaningof biogeochemical cycling of materials- 2 marks; various stages of nitrogen cycle- 2 marks | (4) |
|  | c) | Listing the different source correction methods used by industries to control air pollution ( minimum four) | (4) |
|  | d) | Differentiate between (i) radiation inversion and subsidence inversion- 2 marks;(ii) primary air quality standard and secondary air quality standard- 2 marks | (4) |
| **PART B**  |
| ***Answer any two full questions, each carries 15 marks.*** |
| 4 | a) | Adverse impacts ofSynthetic organic compounds on aquatic ecosystem  | (4) |
|  | b) | Source and impact of the heavy metals in aquatic ecosystem. (i) lead- 2 marks; (ii) cadmium-2 marks (iii) mercury-2 marks | (6) |
|  | c) | Waterborne diseases-2marks; three causative agents with the diseases caused- 3 marks. | (5) |
| 5 | a) | Reasoning for municipal solid waste management becoming a challenge in many areas | (5) |
|  | b) | 5R principle in solid waste management | (5) |
|  | c) | Segregation of solid waste- 2 marks; benefits gained – 3 marks | (5) |
| 6 | a) | Impact of iron (2 marks) and manganese (2 marks) on quality of water | (4) |
|  | b) | drinking water standard as per BIS for (i) Nitrate (ii) sulphate and (iii) turbidity- 1.5 marks; ill effects – 1.5 marks | (3) |
|  | c) | “Great Pacific garbage patch”- 1 mark; causes-1 mark; impacts- 2 marks | (4) |
|  | d) | Pathways in which E-waste-related toxic effects can be exacerbated throughout a person’s lifetime and across generations | (4) |
| **PART C**  |
| ***Answer any two full questions, each carries20 marks.*** |
| 7 | a) | Effects on soil quality due to excessive and intensive irrigation practices: direct-3.5 marks; indirect- 3.5 marks | (7) |
|  | b) | Justification for climate changes due to urbanisation | (6) |
|  | c) | Organic farming- 3 marks; advantages- 4 marks | (7) |
| 8 | a) | Listing the various non industrial sources of noise with their typical noise levels( minimum 7 sources) | (7) |
|  | b) | Weighting networks in sound level meters- 2 marks; Mentioning the different types and importance of each weighting network- 5 marks. | (7) |
|  | c) | Noise control at the source of generation | (6) |
| 9 | a) | Soil acidification- 1 mark;effect on: agricultural productivity- 2 marks; sustainable farming systems- 2 marks | (5) |
|  | b) | Control measuresfor land degradation due to mining and its subsequent activities  | (5) |
|  | c) | Basic sound absorption technologies used for noise reduction in buildings  | (5) |
|  | d) | Occupational hearing loss- 2 marks; prevention – 3 marks | (5) |
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