

University of Mumbai
Online Examination 2020

Program: BE Chemical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: **CHC605**

Course Name: **PLANT ENGINEERING**

Time: 1 hour

Max. Marks: 50

Note to the students:- All Questions are compulsory and carry equal marks .

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|-----------|--|
| Q1. | Number of occupational injuries and/or illnesses or lost workdays per 100 full-time employees is definition of |
| Option A: | First Aid |
| Option B: | Incident rate |
| Option C: | Lost workdays |
| Option D: | Medical treatment |
| Ans: | |
| | |
| Q2. | Any injury such as a cut, sprain, or burn that results from a work accident or from a single instantaneous exposure in the work environment is definition of |
| Option A: | Occupational injury |
| Option B: | Occupational illness |
| Option C: | Recordable cases |
| Option D: | Recordable fatality cases |
| Ans: | |
| | |
| Q3. | Both the OSHA incidence rate and the FAR depend on the number of |
| Option A: | Exposed days |
| Option B: | Exposed minutes |
| Option C: | Exposed hours |
| Option D: | Eexposed years |
| Ans: | |
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| Q4. | A chemical or physical condition that has the potential for causing damage to people, property, or the environment. |
| Option A: | Below unity |

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| Option B: | Unity |
| Option C: | 2 |
| Option D: | 2.5 |
| Ans: | |
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| Q5. | The lowest temperature at which a vapour above a liquid will continue to burn once ignited is defined as |
| Option A: | Flash Point |
| Option B: | Ignition |
| Option C: | Fire Point |
| Option D: | Autoignation Temperature |
| Ans: | |
| | |
| Q6. | Which act establishes responsibilities and rights for employers and employees? |
| Option A: | SARA |
| Option B: | RCRA |
| Option C: | CERCLA |
| Option D: | OSHA |
| Ans: | |
| | |
| Q7. | The following risk assessment method involves experts brain storming about "nodes" and "parameters": |
| Option A: | Failure Modes and Effects Analysis charts. |
| Option B: | Hazard and operability (HAZOP) studies. |
| Option C: | Fault-tree analysis. |
| Option D: | Event-tree analysis |
| Ans: | |
| | |
| Q8. | Pressure relief systems are required for .Pick a wrong statement: |
| Option A: | To protect personnel from the dangers of over pressurizing equipment |
| Option B: | To minimize chemical losses during pressure upset |
| Option C: | To prevent damage to equipment |
| Option D: | To prevent exothermic reaction in a reactor |
| Ans: | |
| | |
| Q9. | What is the final stage of risk assessment? |
| Option A: | Hazard identification |
| Option B: | Risk characterization |
| Option C: | Exposure assessment |
| Option D: | Toxicity assessment |
| Ans: | |
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| Q10. | Which of the following is a water tube boiler _____ |
| Option A: | Locomotive boiler |
| Option B: | Lancashire boiler |

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| Option C: | Cornish boiler |
| Option D: | Babcock and wilcox boiler |
| Ans: | |
| Q11. | An economiser in a boiler_____ |
| Option A: | Increases steam pressure |
| Option B: | Increases steam flow |
| Option C: | Decreases fuel consumption |
| Option D: | Decreases steam pressure |
| Ans: | |
| Q12. | Locomotive boiler is a following type_____ |
| Option A: | Multitubular |
| Option B: | Vertical |
| Option C: | Externally fired |
| Option D: | Stationary |
| Ans: | |
| Q13. | The number of fire tubes in Lancashire boiler is_____ |
| Option A: | Zero |
| Option B: | One |
| Option C: | Two |
| Option D: | Three |
| Ans: | |
| Q14. | Separators in compressor installations are located_____ |
| Option A: | Before intercooler |
| Option B: | After intercooler |
| Option C: | After receiver |
| Option D: | Between after cooler and air receiver |
| Ans: | |
| Q15. | The type of rotary compressor used in gas turbine is of _____ |
| Option A: | Centrifugal type |
| Option B: | Axial flow type |
| Option C: | Radial flow type |
| Option D: | Irrational Flow |
| Ans: | |
| Q16. | The maximum delivery pressure in a rotary air compression is_____ |
| Option A: | 10 bar |
| Option B: | 20 bar |
| Option C: | 30 bar |
| Option D: | 40 bar |
| Ans: | |

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| Q17. | The speed of the rotary compressor is _____ as compared to reciprocating air compressor |
| Option A: | High |
| Option B: | Low |
| Option C: | Equal |
| Option D: | Not equal |
| Ans: | |
| | |
| Q18. | At lower temperatures and pressures, the latent heat of vaporisation of a refrigerant |
| Option A: | Decreases |
| Option B: | Increases |
| Option C: | Remain same |
| Option D: | Depends on other factors |
| Ans: | |
| | |
| Q19. | In a vapour compression system, the condition of refrigerant before passing through the condenser is |
| Option A: | Saturated liquid |
| Option B: | Wet vapour |
| Option C: | Dry saturated vapour |
| Option D: | Superheated vapour |
| Ans: | |
| | |
| Q20. | The leaks in a refrigeration system using Freon are detected by |
| Option A: | Halide torch which on detection produces greenish flame lighting |
| Option B: | Sulphur sticks which on detection gives white smoke |
| Option C: | Using reagents |
| Option D: | Smelling |
| Ans: | |
| | |
| Q21. | The reduced ambient air cooling system has |
| Option A: | One cooling turbine and one heat exchanger |
| Option B: | One cooling turbine and two heat exchangers |
| Option C: | Two cooling turbines and one heat exchanger |
| Option D: | Two cooling turbines and two heat exchangers |
| Ans: | |
| | |
| Q22. | Combustion requires |
| Option A: | Three ingredients: fuel, an oxidizing agent (typically oxygen in air), and heat (or ignition source). |
| Option B: | Only oxygen |
| Option C: | Only N ₂ |
| Option D: | Only Air |
| Ans: | |

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| Q23. | The flaring process can produce some undesirable by-products including |
| Option A: | Noise, smoke, heat radiation, light, sulfur oxides (SOx), nitrogen oxides (NOx), CO |
| Option B: | Sulfur oxides (SOx) only |
| Option C: | Nitrogen oxides (NOx) only |
| Option D: | CO only |
| Ans: | |
| | |
| Q24. | Venting is the direct release of |
| Option A: | Natural gas into the atmosphere. |
| Option B: | Only CO |
| Option C: | Only CO ₂ |
| Option D: | Only CO |
| Ans: | |
| | |
| Q25. | The Molecular Seal is a purge reduction device which allows the flare system operator to use _____ less purge gas while continually sweeping the system. |
| Option A: | 100% |
| Option B: | 50% |
| Option C: | 98% |
| Option D: | 10% |
| Ans: | |
| | |

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| Question | Correct Option (Enter either 'A' or 'B' or 'C' or 'D') |
|----------|--|
| Q1. | B |
| Q2. | A |
| Q3. | C |
| Q4. | A |
| Q5. | C |
| Q6. | D |
| Q7. | B |
| Q8. | D |
| Q9. | B |
| Q10. | D |
| Q11. | C |
| Q12. | A |
| Q13. | C |
| Q14. | D |
| Q15. | B |
| Q16. | A |
| Q17. | A |
| Q18. | B |
| Q19. | D |
| Q20. | A |
| Q21. | C |
| Q22. | A |
| Q23. | A |
| Q24. | A |
| Q25. | C |
