



CHEMISTRY

BOOKS - AGRAWAL EXAM CART BIHAR

**FOSSIL FUELS (COAL AND PETROLEUM
& ITS REFINING), ITS COMBUSTION
AND FLAME**

Solved Example

1. In an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.



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2. The total amount of heat produced by a fuel having a calorific value of 20 KJ/Kg 1 was found to be 50,000 joules. How much fuel was burnt ?





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Jnv Previous Years 2007 2020 Questions

1. Which of the following is not a constituent of petroleum?

- A. paraffin wax
- B. lubricating oil
- C. coke
- D. petrol

Answer: C



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2. The black thick liquid with unpleasant smell is known as _____ .

A. kerosene

B. coal-tar

C. petrol

D. coke

Answer: B



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3. Naphthalene balls are obtained from

- A. petroleum
- B. paraffin wax
- C. coal tar
- D. coal gas

Answer: C



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4. Coal is formed from the remains of

A. vegetation only

B. both vegetation and animals

C. animals only

D. None of the above

Answer: B



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5. When coal burns in air gas is mainly produced.

A. SO_2

B. NO_2

C. CO

D. CO_2

Answer: D



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6. Fill in the blanks.

The process of separating the various constituents of petroleum is known as _____.

A. carbonisation

B. refining

C. distillation

D. distillation

Answer: B



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7. Choose the correct statement from the following-

A. It is difficult to transport natural gas through pipes

B. The disadvantage of natural gas is that it cannot be used directly for burning in homes

C. Natural gas is stored under high pressure as compressed natural gas

D. Natural gas cannot be used for power generation

Answer: C



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8. If a person's clothes catches fire, the best way to extinguish the fire is to:

A. throw water on the clothes

B. use fire extinguisher

C. cover the person with a woolen blanket

D. cover the person with a polythene sheet

Answer: C



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9. It is mainly found in 'Bio-Gas' -

A. Chlorine

B. Hydrogen

C. Ethylene

D. Methane

Answer: D



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10. Power alcohol is :

A. Drinkable alcohol

B. Purified alcohol

C. Ethyl alcohol in the form of fuel

D. Purified Methyl alcohol

Answer: A



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11. The main component of natural gas is :

A. Methane

B. Ethane

C. Butane

D. Propane

Answer: A



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12. Which of the following gases has the blue flame?

A. CO

B. O_2

C. N_2

D. CO_2

Answer: D



13. Choose the correct statement from the following:

(i) CNG is an ideal fuel.

(ii) CNG on burning creates oxides of Nitrogen and sulphur in less quantity.

(iii) The calorie value of CNG is more than hydrogen.

(iv) CNG is comparatively a clean fuel.

A. (i), (ii) and (iii)

B. (ii), (iii) and (iv)

C. (i), (iii) and (iv)

D. (i), (ii) and (iv)

Answer: B



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14. Which of the forms of energy mentioned below have lastly originated from solar energy?

(i) Bio gas

(ii) C. N. G and L. P. G

(iii) Wind energy

(iv) Geothermal Energy

A. (i), (ii) and (iii)

B. (i), (iii) and (iv)

C. (i), (iii) and (iv)

D. (i), (ii) and (iv)

Answer: C



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15. Which of the following gas is used in Gas-lighter?

A. Butane

B. Propane

C. Radon

D. Methane

Answer: A



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16. Which of the following is known as Marsh gas?

A. Butane

B. Propane

C. Ethylene

D. Methane

Answer: D



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17. What is obtained by the fraction distillation of bones?

A. Coke

B. Sugar

C. Bone Charcoal

D. Wooden Charcoal

Answer: C



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18. Which of the region of a flame is called luminous zone?

A. Outermost Zone

B. Inner Zone

C. Middle Zone

D. Uppermost area of Furnace

Answer: C



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19. Water gas is a mixture of

A. Air & water

B. $CO + H_2$

C. $CO + H_2$

D. $CO_2 + H_2$

Answer: B



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20. Which of the following is the property of good fuel ?

A. Low Calorific value

B. High temperature

C. High calorific value

D. CO_2

Answer: C



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21. By the fractional distillation of bones we get

A. Soot

B. Bone charcoal

C. Sugar charcoal

D. Coke

Answer: B



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22. Of what liquified petroleum gas (LPG) is mainly made up of ?

A. Methane, Butane, Propane

B. Methane, Ethane, Propane

C. Methane, Ethane

D. Methane

Answer: A



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Important Questions

1. PCRA stands for

A. Pollution Control Research Association

B. Petroleum Conservation Research Association

C. Petroleum Control Research Association

D. Petroleum Control Research Association

Answer: B



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2. Acid rain is caused by oxides of:

A. sulphur, nitrogen

B. sulphur, carbon

C. carbon, nitrogen

D. phosphorous, carbon

Answer: A



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3. Name the fossil fuel which is mostly found in Tripura, Rajasthan, Maharashtra and in Krishna Godavari delta.

A. Coal

B. Petroleum

C. Natural gas

D. None of these

Answer: C



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4. The total amount of heat or energy produced by one kg of fuel is the:

- A. heat content
- B. net calorific value (NCV)
- C. gross calorific value (GCV)
- D. specific heat

Answer: B



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5. Refining is:

A. extracting petroleum gas

B. separation of various fractions of petroleum

C. heating of coal

D. sedimentation of fossil fuel

Answer: B



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6. Fuel formed under the earth's surface by the decomposition of organic matter is called :

A. organic fuel

B. biogas

C. fossil fuel

D. underground fuel

Answer: C



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7. In India, vast reserves of natural gas are found in:

A. Tripura

B. Rajasthan

C. Maharashtra

D. All of the above

Answer: D



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8. Bitumen is used in:

A. electric generators

B. road surfacing

C. coal tar

D. natural gas

Answer: B



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9. What is called 'black gold'?

A. Petroleum

B. Coal

C. Coal tar

D. Natural gas

Answer: A



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10. CO_2 is stored as a liquid in cylinder at:

- A. high pressure
- B. low pressure
- C. high temperature
- D. low temperature

Answer: A



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11. Petrol can be saved by:

A. driving at a constant & moderate speed

B. ensuring correct tyre pressure

C. switching off the engine at traffic lights

D. all of the above

Answer: D



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12. CNG is :

- A. highly polluting
- B. less polluting
- C. not at all polluting
- D. none of the above

Answer: B



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13. Kerosene is used in/as:

A. jet engines

B. fuel

C. ointments

D. lubricants

Answer: A



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14. Useful substances obtained from petroleum and natural gases are called:

- A. chemicals
- B. petroleum products
- C. petrochemicals
- D. none of the above

Answer: C



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15. Petrochemicals are used in the manufacture of:

A. polythene

B. detergents

C. fibres

D. all of these

Answer: D



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16. Dead organisms are transformed into petroleum and natural gas in:

- A. absence of air
- B. presence of air
- C. presence of sunlight
- D. none of the above

Answer: A



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17. Diesel is used in:

A. cooling oil

B. paints

C. road surfacing

D. electric generators

Answer: D



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18. Which of them is used in extraction of metals ?

A. Coke

B. Coal gas

C. Coal tar

D. Petroleum

Answer: A



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19. Which of them is used as solvent for dry cleaning ?

A. Diesel

B. Kerosene

C. Petrol

D. Paraffin wax

Answer: C



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20. The fibres manufactured by petrochemicals are :

A. Nylon

B. Polyester

C. Acrylic

D. All of these

Answer: D



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21. What is the percentage of oxygen by volume in the atmosphere?

A. 14 %

B. 23 %

C. 20.9 %

D. 79 %

Answer: C



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22. LPG is predominantly a mixture of propane and:

A. methane

B. isopropane

C. butane

D. ethane

Answer: C



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23. Combustion of which of the following fuels requires the highest amount of excess air :

A. light diesel oil (LDO)

B. natural gas

C. LPG

D. coal

Answer: D



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24. The presence of carbon monoxide(CO) in fuel gas means:

- A. high excess air
- B. poor combustion
- C. high thermal efficiency
- D. all of the above

Answer: B



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25. When magnesium ribbon burnt, it produces :

A. magnesium hydroxide

B. magnesium oxide

C. magnesium chloride

D. magnesium sulphate

Answer: B



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26. Charcoal burns in air producing:

A. CO_2

B. CO

C. H_2

D. O_2

Answer: A



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27. Combustion is a:

A. physical process

B. chemical process

C. both (A) and (B)

D. none of the above

Answer: B



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28. The lowest temperature at which a substance catches fire is called its :

- A. boiling point
- B. melting point
- C. ignition temperature
- D. critical temperature

Answer: C



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29. Which of the following has lower ignition temperature?

A. Wood

B. Paper

C. Vegetable oil

D. Kerosene oil

Answer: D



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30. In presence of water, ignition temperature of paper

A. decrease

B. increase

C. remain constant

D. none of the above

Answer: B



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31. The main constituent of CNG

A. methane

B. butane

C. ethane

D. propane

Answer: A



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32. Fire extinguisher is used to:

A. cut off the supply of air

B. bring down the temperature of fuel

C. both(A) and (B)

D. none of the above

Answer: C



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33. Explosion is the evolution of:

A. heat

B. light

C. sound

D. all of these

Answer: D



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34. The substances which vapourise during burning, give

A. sound

B. flame

C. combustion

D. none of these

Answer: B



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35. Which is the hottest part in the flame of the candle ?

A. Blue

B. Yellow

C. Black

D. Wax part

Answer: A



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36. Innermost zone is the:

A. hottest part

B. moderately hot part

C. least hot part

D. cold part

Answer: C



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37. Yellow colour in the flame denotes:

A. outermost part

B. middle zone

C. innermost zone

D. none of these

Answer: B



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38. Name the fossil fuel used in making food, railway engine and thermal power plants :

A. Coal

B. Petroleum

C. Natural gas

D. None of these

Answer: A



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39. Use of in vehicle reduces pollution.

A. petrol

B. diesel

C. CNG

D. none of these

Answer: C



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40. Ideal fuel has ----- calorific value.

A. low

B. high

C. moderate

D. zero

Answer: B



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41. Calorific value gives the:

- A. fuel efficiency
- B. amount of heat
- C. amount of light
- D. none of the above

Answer: A



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42. Calorific value is measured in:

A. kilo joule

B. kilograms

C. kilo joule per kg

D. kilometre

Answer: C



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43. Unburnt carbon particles of the fuel cause

A. stomach infections

B. respiratory problems

C. brain infections

D. throat problems

Answer: B



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44. Incomplete combustion gives :

A. CO_2

B. CO

C. Carbon

D. None of these

Answer: B



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45. Goldsmith uses.....part of the flame for melting gold.

A. outermost

B. middle

C. innermost

D. both (B) and (C)

Answer: A



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46. Name the gas obtained during the processing of coal to get coke :

A. Coke

B. Coal tar

C. Coal gas

D. None of these

Answer: C



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47. Combustion of most fuels releases:

A. CO_2

B. SO_2

C. NO_2

D. O_2

Answer: A



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48. Name the black thick liquid substance used in synthetic dyes, explosive, photographic materials:

A. Coke

B. Coal tar

C. Coal gas

D. None of these

Answer: B



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49. Petrol engine gives off gaseous oxides of:

A. sulphur

B. nitrogen

C. phosphorous

D. carbon

Answer: B



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50. Which is a solid fuel ?

A. Petrol

B. Diesel

C. Kerosene

D. Wood

Answer: D



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51. In the sun, heat and light are produced by

A. chemical reactions

B. nuclear reactions

C. ionic reactions

D. none of the above

Answer: B



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52. The head of a safety matchstick contains

A. antimony trisulphide

B. potassium chlorate

C. both (A) and (B)

D. none of the above

Answer: C



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53. When the matchstick is struck against rubbing surface, red phosphorous:

- A. gets converted into white phosphorous
- B. reacts with potassium chlorate
- C. ignite antimony trisulphide
- D. none of the above

Answer: A



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54. Best extinguisher for inflammable metals is:

A. Water

B. SO_2

C. CO_2

D. CO

Answer: C



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55. CO_2 is given off by chemicals like :

A. sodium bicarbonate

B. calcium sulphate

C. sodium sulphate

D. sulphuric acid

Answer: A



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56. Coal is in nature:

A. soft

B. hard

C. thin

D. hot

Answer: B



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57. Coal mainly contains:

A. hydrogen

B. oxygen

C. carbon

D. sodium

Answer: C



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58. Carbonisation is:

A. slow conversion of dead vegetation into
coal

B. deposition of soil

C. falling of trees

D. none of these

Answer: A



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59. Coal is processed in industry to get :

A. coke

B. coal tar

C. coal gas

D. all of these

Answer: D



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60. Coke is used in the manufacturing of:

A. lead

B. iron

C. steel

D. copper

Answer: C



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61. Which is an almost pure form of carbon

A. Coke

B. Coal tar

C. Coal gas

D. None of these

Answer: A



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62. Coal tar is used in manufacture of:

A. synthetic dyes

B. drugs

C. explosives

D. all of these

Answer: D



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63. Naphthalene balls are obtained from:

A. Carbon

B. coke

C. coal tar

D. coal gas

Answer: C



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64. Name the resources that is found nature and can be used by people :

- A. Natural resource
- B. Man-made resource
- C. Human resource
- D. None of the above

Answer: A



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65. Air is an example of:

- A. Human resource
- B. Man-made resource
- C. Natural resource
- D. None of these

Answer: C



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66. Name the resources present in unlimited quantity in nature :

A. Inexhaustible natural resources

B. Exhaustible natural resources

C. Limited natural resources

D. None of the above

Answer: A



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67. Name the resources present in limited quantity in nature :

A. Inexhaustible natural resources

B. Exhaustible natural resources

C. Limited natural resources

D. None of the above

Answer: B



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68. Name the resources exhausted by human activities :

A. Inexhaustible natural resources

B. Exhaustible natural resources

C. Limited natural resources

D. None of the above

Answer: B



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69. Name the fossil fuel which is hard solid and black in colour :

A. Coal

B. Petroleum

C. Natural gas

D. None of these

Answer: A



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70. Name the process which is used to separate various constituent of petroleum :

A. Lubrication

B. Refining

C. Paraffin

D. None of these

Answer: B



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71. Refining of petroleum is done in :

A. Fractionating column

B. Zone refining column

C. Pronounce column

D. None of the above

Answer: A



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72. Name the fossil fuel formed from the dead organisms present in the sea :

A. Coal

B. Petroleum

C. Windmill

D. None of these

Answer: B



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73. Name the substance which is used in candle and ointment:

A. Lubricating oil

B. Petrol

C. Bitumen

D. Paraffin wax

Answer: D



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74. Name the gas which mainly contains methane, but also contains CO_2 , H_2S in small amount :

A. Coal

B. Petroleum

C. Natural gas

D. None of these

Answer: C



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75. At high temperature, natural gas is compressed as :

A. CNG

B. LPG

C. JPG

D. None of these

Answer: A



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76. Name the fuel which is used in stoves, lamps :

A. Petrol

B. Diesel

C. Kerosene

D. Paraffin wax

Answer: C



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77. Name the substance which is used in lubrication :

- A. Lubricating oil
- B. Lubricating fibre
- C. Both of the above
- D. None of the above

Answer: A



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78. Name the substance which is used in paints, road surfacing :

A. Lubricating oil

B. Petrol

C. Bitumen

D. Paraffin wax

Answer: C



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79. Name the coal product used in manufacture of steel and extraction of metals :

A. Coke

B. Coal tar

C. Coal gas

D. None of these

Answer: A



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