

OBJECTIVE TYPE QUESTIONS

1. One British Thermal Unit is:
(A) 504 cal (B) 252 cal (C) 120 cal (D) 1000 cal.
2. The most important characteristics of a fuel is:
(A) Cost of fuel (B) High Calorific value
(C) Moisture content (D) Smoke.
3. The highest calorific value is obtained from:
(A) Peat (B) Wood (C) Anthracite (D) Brown Coal.
4. The compound with antiknock value of zero:
(A) *n*-pentane (B) *n*-butane (C) *n*-hexane (D) *n*-heptane.

5. The compound with antiknock value 100 is:

(A) Iso-octane	(B) <i>n</i> -heptane
(C) 2-methyl hexene	(D) 2, 2 dimethyl pentane.
6. Examples of antiknock agent is:

(A) Tetraethyl lead	(B) Mercury oxide
(C) Arsenic sulfide	(D) Cadmium bromide.
7. Aviation gasoline has octane number of about:

(A) 50	(B) 80	(C) 90	(D) 100.
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8. The easiest way of judging the utility of a coal sample lies in the determination of:

(A) carbon content	(B) calorific value
(C) proximate analysis	(D) ultimate analysis.
9. Out of the following fractions of petroleum, the fraction having *lowest* boiling point is:

(A) kerosene oil	(B) diesel	(C) gasoline	(D) heavy oil.
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10. The fuel used in jet planes is:

(A) kerosene	(B) fuel oil	(C) diesel	(D) heavy oil.
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11. The usefulness of a given sample of coal is determined by:

(A) gas analysis	(B) volumetric analysis
(C) proximate analysis	(D) salt analysis.
12. The fraction of petroleum distilling over between 40–120°C is used:

(A) in jet engines	(B) in diesel engines
(C) furnace heating	(D) in motor engines.
13. The process by which the higher hydrocarbons are broken into lower hydrocarbons by the application of heat, is called:

(A) breaking	(B) cracking	(C) sparking	(D) jetting.
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14. Solid fuels can be used:

(A) in internal combustion engines	(B) in diesel engines
(C) in jet engines	(D) for heating boilers.
15. Fuel suitable for use in motor engines is:

(A) kerosene	(B) gasoline	(C) diesel	(D) heavy oil.
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16. A good coal should have high:

(A) moisture content	(B) ash content
(C) volatile matter	(D) fixed carbon content.
17. Gaseous fuels:

(A) possess low heat content	(B) cannot flow through pipes
(C) can be lighted at a moment's notice	(D) burn producing ash.
18. Laboratory gas is obtained by cracking:

(A) coal	(B) diesel oil	(C) kerosene oil	(D) petrol.
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19. Importance of coal analysis is summed up as follows:

(A) High moisture content is useful
(B) High volatile matter containing coals burns without smoke

- (C) Nitrogen has no calorific value
(D) Ash increases flame temperature.
20. The octane rating of gasoline refers to its:
(A) percentage of octane in the gasoline
(B) percentage of saturated hydrocarbons in the gasoline
(C) ability to resist engine knocking
(D) percentage of unsaturated hydrocarbons in the gasoline.
21. Which one of the following hydrocarbon isomers would have the *highest* octane rating?
- (A) $\begin{array}{c} \text{C}-\text{C}-\text{C}-\text{C} \\ | \quad | \\ \text{C} \quad \text{C} \end{array}$ (B) $\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}$
- (C) $\begin{array}{c} \text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$ (D) $\begin{array}{c} \text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$

Answers

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|---------|---------|----------|---------|---------|---------|
| 1. (B) | 2. (B) | 3. (C) | 4. (D) | 5. (A) | 6. (A) |
| 7. (D) | 8. (C) | 9. (C) | 10. (A) | 11. (C) | 12. (D) |
| 13. (B) | 14. (D) | 15. (B) | 16. (D) | 17. (C) | 18. (C) |
| 19. (C) | 20. (C) | 21. (A). | | | |

FILL IN THE BLANKS

- The calorific value of coke is generally than coal from which it is obtained.
- During petroleum cracking, the products obtained have boiling points than the original oil.
- A good fuel should have calorific value and moisture content.
- Octane number of gasoline is than that of diesel oil.
- Calorific value of producer gas is than that of water gas.
- Cetane number refers to liquid fuel, used in
- Alkaline pyrogallol in orsat's apparatus is used to absorb gas.
- Coal having maximum carbon content and maximum calorific value is
- A good fuel should possess ignition temperature.
- A gaseous fuel used as source of hydrogen is
- is a biogas obtained from cattle dung.
- calorific value includes latent heat of steam.
- is the only primary liquid fuel in nature.
- The only liquid fuel in nature is
- The substance with octane number 100 is
- The process of separation of various fractions of petroleum is known as
- The temperature to which a fuel is to be ignited to start burning is called

18. The SI unit for expressing the calorific value of a solid fuel is

19. LPG has ignition temperature than that of kerosene.

Answers

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|-------------------|-----------------------------|--------------|--------------------------|---------------|
| 1. higher | 2. lower | 3. high; low | 4. higher | 5. lower |
| 6. diesel engines | | 7. oxygen | 8. anthracite | 9. moderate |
| 10. water gas | 11. Gobar gas | 12. Higher | 13. Petroleum | 14. petroleum |
| 15. isooctane | 16. fractional distillation | | 17. ignition temperature | |
| 18. kJ/kg | 19. lower. | | | |