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Engineering Job Interview Preparation Guide.

Question #1

What is engineering?

Answer:-

Engineering is defined in the dictionary as the practical application of science and math - and that definition really does capture what engineering is all about, Bringing science with the help of math to life by creating practical, real-world things. So in a very real sense, engineering is applied science.

Read More Answers.

Question # 2

Is engineer would be an applied scientist?

Answer:-

Yes! Someone who takes scientific discoveries and theory out of the laboratory and puts them to work in the real world. In short, engineers turn science into reality. So while traditional scientists produce knowledge, as applied scientists, engineers use that knowledge to produce things - products, structures/buildings, machines, technology, complex systems, etc. Just about anything you can think of that is man-made.

Read More Answers

Question # 3

Suppose if that's not what I thought an engineer was?

Answer:

Unfortunately, engineers haven't done a good job in getting the word out about what they really do (perhaps because they're too busy doing it!). As a result, a lot of misconceptions exist about what engineering is and what engineers do, with people believing engineers to be anything from locomotive train operators to mechanics/technicians, to construction supervisors, to NASA personnel, to generic computer people. But now you know the truth as applied scientists, engineers turn science into reality.

Read More Answers.

Question # 4

How exactly do engineers turn science into reality?

Answer:-

By using their technical knowledge of science and math, along with equal doses of creativity and inventiveness, engineers first design something new or improve the design of something that already exists. They then get involved in manufacturing or building that new or better-designed thing bringing it to life. Finally, if it is a complicated thing (for instance, a power plant), engineers also get involved in operating and maintaining it keeping it alive and running in tip-top shape.

Read More Answers.

Question # 5

What specific things do engineers design, help to manufacture, build or help to operate and maintain?

Answer:

Just look around you for the answers - cars, vans and trucks; roads, bridges and highways; trains, planes and buses; computers, cell phones and MP3 players; refrigerators, air conditioners and heating systems; etc. - the engineer's invisible hand in present in almost everything that you and others use and depend upon each and every day. Plus a multitude of other thing that are not as obvious: medical instruments, fire engines, farming equipment, food processing plants, sports equipment, musical instruments and recording equipment - and the list goes on and on.

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Question # 6

Can engineer really make a valuable contribution to society as an engineer, helping better my community, our nation and the world?

Answer:-

Helping to provide everyday things that we all depend on (such as clean water and electricity) to creating the latest in cutting-edge technology (such as biotechnology and nanotechnology), engineers "make a difference" every day, serving in a very real way as the architects of the modern world in which we live.



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Question #7

Are all engineers the same?

Answer:-

No. Just like scientists, engineers specialize in a particular field (discipline), based on their academic training. So while the main types of scientists out there are biologists, chemists and physicists, in engineering the main types are civil, computer, electrical and mechanical engineers - about two-thirds of all students studying engineering earn a degree in one of those four disciplines. And again like science, there are many other fields that students can specialize in within engineering, such as aerospace, bio-medical, chemical and industrial/manufacturing, which the next most popular engineering majors out there. So don't worry, there's an engineering major out there waiting for you!

Read More Answers.

Question #8

When these numbers are multiplied, (6 times 103) (5 times 105), the result is:

A. 3 times 108

B. 30 times 108

C. 300 times 109

D. 3,000 times 107

Answer:-

Option B (30 times 108)

Read More Answers.

Question # 9

The number of kilowatts in 135 milliwatts is:

A. 1.35 times 10-4 kW

B. 135 times 10-3 kW

C. 0.0135 kW

D. 0.00135 kW

Answer:-

Option A

(1.35 times 10-4 kW)

Read More Answers.

Question # 10

When converting 7,000 nA to microamperes, the result is:

A. 0.007 uA

B. 0.7 uA

C. 700 uA

D. 7 uA

Answer:-

Option D (7 uA)

Read More Answers.

Question #11

The number 65,000 expressed in scientific notation as a number between 1 and 10 times a power of ten is:

A. 0.65 times 104

B. 6.5 times 104

C. 65 times 104

D. 650 times 103

Answer-

Option B

(6.5 times 104)

Read More Answers.

Question # 12

Resistance is measured in:

A. henries

B. ohms

C. hertz

D. watts

Answer:-

Option B

(ohms)

Read More Answers.



Question #13

The number 3.2 times 10-5 A expressed using a metric prefix is:

B. 3.3 uA

C. 320 mA

D. 3,200 mA

Answer:-

Option A (32 uA)

Read More Answers.

Question # 14

Eighteen thousand watts is the same as:

A. 18 mW

B. 18 MW

C. 18 kW D. 18 uW

Answer:-

Option C (18 kW)

Read More Answers.

Question #15

The number of millivolts in 0.06 kilo-volts is:

A. 600 V

B. 6,000 mV

C. 60,000 mV

D. 600,000 mV

Answer:-

Option C (60,000 mV)

Read More Answers.

Question # 16

The number of micro-amperes in 2 milliamperes is:

A. 2 uA

B. 20 uA

C. 200 uA D. 2,000 uA

Answer:-

Option D (2,000 uA)

Read More Answers.

Question # 17

The number 4.4 times 106 ohms expressed using a metric prefix is:

A. 4 k B. 4.4 k C. 4 M D. 4.4 M

Answer:-

Option D

(4.4 M)

Read More Answers.

Question # 18

Voltage is measured in:

A. volts B. farads

C. watts D. ohms

Answer:-

Option A (volts)

Read More Answers.

Question # 19

The number 0.0003 multiplied by 10-3 is:



A. 0.0000003

B. 0.0003 C. 3

D. 3,000

Answer:-

Option A (0.0000003)

Read More Answers.

Question # 20

The number of megohms in 0.03 kilohms is:

A. 0.00002 M

B. 0.0002 M

C. 3 times 10-5 M

D. either 0.00002 M or 0.0002 M

Answer:-

Option C (3 times 10-5 M)

Read More Answers.

Question # 21

The quantity 43 times 10-3 is the same as:

A. 0.043 B. 0.430 C. 430

D. 43,000

Answer:-

Option A

(0.043)

Read More Answers.

Question # 22

Current is measured in:

A. watts B. volts

C. henries

D. amperes

Answer:-

Option D

(amperes)

Read More Answers.

Question # 23

The number 4,500,000 can be expressed as:

A. 4,500 times 106

B. 4.5 times 106 C. 4.5 times 10-3

D. either 4,500 times 103 or 4.5 times 106

Answer:-

Option B

(4.5 times 106)

Read More Answers.

Question # 24

When converting 1,600 kilohms to megohms, the result is:

A. 1,600,000 M

B. 160 M C. 1.6 M

D. 0.160 M

Answer:-

Option C

Read More Answers.

Question # 25

What is (79 times 106)/(12 times 10-8):

A. 6,580 times 1012

B. 658 times 1010

C. 6.58 times 1014



D. 0.658 times 1016

Answer:-

Option C (6.58 times 1014)

Read More Answers.

Question # 26

Fourteen milliamperes can be expressed as:

B. 14 uA

C. 14 kA

D. 14 mA

Answer:-

Option D (14 mA)

Read More Answers.

Question # 27

The number 4.38 times 10-3 expressed as a number having a power of 10-6 is:

A. 4,380 times 10-6

B. 438 times 10-6

C. 43,800 times 10-6

D. 438,000 times 10-6

Answer:-

Option A

(4,380 times 10-6)

Read More Answers.

Question # 28

When converting 0.16 mA to micro-amperes, the result is:

B. 160 uA

C. 1,600 uA

D. 0.0016 uA

Answer:-

Option B (160 uA)

Read More Answers.

Question # 29

When these numbers are added, (87 times 105) + (2.5 times 106), the result is:

A. 1.12 times 104

B. 11.2 times 105 C. 112 times 105

D. 1,120 times 106

Answer:-

Option C

(112 times 105)

Read More Answers.

Question #30

The quantity 3.3 times 103 is the same as:

A. 330 B. 3,300

C. 33,000 D. 0.0033

Answer:-

Option B

(3,300)

Read More Answers.

Question #31

Which of the following is not an electrical quantity?

A. voltage

B. current

C. distance

D. power

Answer:-



Option C (distance)

Read More Answers.

Question #32

Seven thousand volts can be expressed as:

A. 7 kV

B. 7 MV C. 7 mV

D. either 7 kV or 7 mV

Answer:-

Option A (7 kV)

Read More Answers.

Question # 33

The coefficient of restitution for elastic bodies is one.

A. Correct B. Incorrect

Answer:-

Option B (Incorrect)

Read More Answers.

Question #34

The term 'force' may be defined as an agent which produces or tends to produce, destroys or tends to destroy motion.

A. Agree B. Disagree

Answer:-

Option A (Âgree)

Read More Answers.

Question #35

Two balls of equal mass and of perfectly elastic material are lying on the floor. One of the ball with velocity v is made to struck the second ball. Both the balls after impact will move with a velocity:

B. v/2

C. v/4 D. v/8

Answer:-

Option B

(v/2)

Read More Answers.

Question #36

The friction experienced by a body, when in motion, is known as:

A. rolling friction

B. dynamic friction

C. limiting friction

D. static friction

Answer-

Option B

(dynamic friction)

Read More Answers.

Question #37

According to principle of conservation of energy, the total momentum of a system of masses in any direction remains constant unless acted upon by an external force in that direction.

A. True

B. False

Answer:-

Option B

(False)

Read More Answers.

Question # 38



If the resultant of two equal forces has the same magnitude as either of the forces, then the angle between the two forces is:
A. 30. B. 60.
C. 90.
D. 120.
Answer:-
Option D
(120.)
Read More Answers.
Question # 39
The angle of inclination of a vehicle when moving along a circular path upon its mass.
A. depends
B. does not depend
Answer:-
Option B (does not depend)
(does not depend) Read More Answers.
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Question # 40
The velocity ratio in case of an inclined plane inclined at angle O to the horizontal and weight being pulled up the inclined plane by vertical effort is:
A. sin O
B. cos O C. tan O
D. cosec O
Answer:-
Option A
(sin O)
Read More Answers.
Outsiles # 44
Question # 41
A smooth cylinder lying on its convex surface remains in equilibrium. A. stable
B. unstable
C. neutral
Answer:-
Option B (unstable)
Read More Answers.
Question # 42
Coefficient of friction is the ratio of the limiting friction to the normal reaction between the two bodies.
A. Yes
B. No
Answer:-
Option A (Yes)
Read More Answers.
Question # 43
The mechanical advantage of a lifting machine is the ratio of:
A. distance moved by effort to the distance moved by load B. load lifted to the effort applied
C. output to the input
D. all of the above
Answer:-
Option B
(load lifted to the effort applied)
Read More Answers.
Question # 44
Static friction is always dynamic friction.
A. equal to
B. less than C. greater than
Answer:- Option C
(greater than)



Read More Answers.

Question # 45

A body will begin to move down an inclined plane if the angle of inclination of the plane is ______ the angle of friction.

A. equal to

B. less than

C. greater than

Answer:-

Option C (greater than)

Read More Answers.

Question # 46

When a particle moves along a circular path with uniform velocity, there will be no tangential acceleration.

A. Correct B. Incorrect

Answer:-

Option A (Correct)

Read More Answers.

Question # 47

The bodies which rebound after impact are called:

A. inelastic bodies

B. elastic bodies

C. neither elastic nor inelastic bodies

D. none of these

Answer:-

Option B

(elastic bodies)

Read More Answers.

Question #48

In a mortar, the binding material is:

A. cement

B. sand C. surkhi

D. cinder.

Answer:-

Option A

(cement)

Read More Answers.

Question # 49

Diamond is a paramagnetic material.

A. True B. False

Answer:-

Option B

(False) Read More Answers.

Question #50

Which capacitor-store higher amount of energy?

A. Air capacitor

B. Paper capacitor

C. Mica capacitor

D. Plastic film capacitor

Answer:-

Option C

(Mica capacitor)

Read More Answers.

Question # 51

Above ferroelectric curie temperature, spontaneous polarization in ferroelectric materials becomes stronger.

A. True

B. False



Answer:-

Option B (False)

Read More Answers.

Question # 52

The core of a coil has a length of 10 cm. The self inductance is 8 mH. If the core length is doubled, all other quantities remaining the same, the self inductance will be

A. 32 mH B. 16 mH

C. 8 mH

D. 4 mH

Answer:-

Option D (4 mH)

Read More Answers.

Question #53

evely arc Two materials having temperature coefficients of 0.004 and 0.0004 respectively are joined in series. The overall temperature coefficient is likely to be:

A. 0.08

B. 0.04 C. 0.001

D. 0.0001

Answer:-

Option C

(0.001)

Read More Answers.

Question #54

The number of valence electrons in pentavalent impurity is:

A. 5 B. 4

C. 3

D. 1

Answer:-

Option A

(5)

Read More Answers.

If the diameter of a wire is doubled, its current carrying capacity becomes:

A. one-fourth

B. half

C. twice D. four times

Answer:-

Option D

(four times)

Read More Answers. Question # 56

Material which lack permanent magnetic dipoles are known as:

A. paramagnetic

B. diamagnetic

C. ferromagnetic

D. ferrimagnetic

Answer:-

Option B

(diamagnetic)

Read More Answers.

Question # 57

In atomic physics, a state with l = 0 is called p state.

A. True

B. False

Answer:-

Option B

(False) **Explanation:**



The state with 1 = 0 is called s state.

Read More Answers.

Question # 58

Which element exhibits the property of inertia?

- A. Resistance
- B. Capacitance
- C. Inductance
- D. Both resistance and inductance

Answer:-

Option C

(Inductance)

Explanation:

Inductance opposes rise and decay of current. Hence it has the property of inertia.

Read More Answers.

Question # 59

In a coaxial cable, braided copper is used for:

A. conductor B. shield

C. dielectric

D. jacket

Answer:-

Option B (shield)

Read More Answers.

Question # 60

The hysteresis phenomenon in ferromagnetic materials exists at all temperatures.

A. True

B. False

Answer:-

Option B (False)

Read More Answers.

Question #61

The attraction between the nucleus and valence electron of copper atom is:

A. zero

B. weak

C. strong

D. either zero or strong

Answer:-

Option B

(weak)

Explanation:

The valence electron, in copper atom, can be easily detached from nucleus.

Read More Answers.

Question # 62

There is no hysteresis phenomenon is any dielectric material.

A. True B. False

Answer:-

Option B

(False) Explanation:

Hysteresis phenomenon exists in dielectric materials.

Read More Answers.

Question #63

A copper atom is neutral. Its core has a net charge of:

B. + 1

D. + 2

Answer:-

Option B

(+1)



Read More Answers.

Question #64

Diamagnetic materials do not have permanent magnetic dipoles.

A. True

B. False

Answer:-

Option A (True)

Read More Answers.

Question # 65

A piece of copper and another piece of Germanium are cooled from 30.C to 80 K. The resistance of

A. copper decreases and germanium increases

B. both decreases

C. both increases

D. copper increases and germanium decreases

Answer:-

Option A

(copper decreases and germanium increases)

Explanation:

As temperature is decreased, resistance of conductors decreases and resistance of semiconductors increases.

Read More Answers.

Question # 66

The units for electric dipole moment are

A. coulombs

B. colomb-metre

C. coulomb/metre

Answer:-

Option B

(colomb-metre)

Explanation:

It is product of charge and distance.

Read More Answers.

Question # 67

The temperature coefficient of resistivity of semiconductors is:

A. positive

B. negative

C. may be positive or negative

D. very low

Answer:-

Option B

(negative)

Explanation:

Resistance of semiconductors decreases with increase in temperature.

Read More Answers.

Question # 68

Which of the following is used in automatic control of street lights?

A. Thermistor

B. Photo-conductor

C. Transistor

D. Varistor

Answer:-

Option B

(Photo-conductor)

Read More Answers.

Question #69

The current flow in a semiconductor is due to:

A. holes

B. electrons

C. holes and electrons

D. holes, electrons and ions

Answer:-

Option C

(holes and electrons)



Read More Answers.

Question #70

A good dielectric should have:

A. low losses

B. good heat conductivity

C. high intrinsic strength

D. all of the above

Answer:-

Option D (all of the above)

Read More Answers.

Question #71

Magnetic hysteresis phenomenon is explained by:

A. motion of domain walls

B. motion of domain walls and domain rotation

C. domain rotation

D. none of the above

Answer:-

Option B

(motion of domain walls and domain rotation)

Read More Answers.

Question #72

Explain rules for designing castings?

Answer:-

- * To avoid the concentration of stresses sharp corners and frequent use of fillets should be avoided.
- * Section thicknesses should be uniform as much as possible. For variations it must be done gradually.
- * Abrupt changes in the thickness should be avoided at all costs.
- * Simplicity is the key, the casting should be designed as simple as possible.
- * It is difficult to create true large spaces and henceforth large flat surfaces must be avoided.
- * Webs and ribs used for stiffening in castings should as minimal as possible.
- * Curved shapes can be used in order to improve the stress handling of the cast.

Read More Answers.

Question #73

Why generally performed heat treatment?

Answer:

Heat treatment is generally performed in the following ways:

- * Normalizing
- * Annealing
- * Spheroidising
- * Hardening
- * Tempering
- * Surface or case hardening

Read More Answers.

Question #74

What is heat treatment?

Answer:-

Heat treatment can be defined as a combination of processes or operations in which the heating and cooling of a metal or alloy is done in order to obtain desirable characteristics without changing the compositions. Some of the motives or purpose of heat treatment are as follows:

- * In order to improve the hardness of metals.
- * For the softening of the metal.
- * In order to improve the mach-inability of the metal.
- * To change the grain size.
- * To provide better resistance to heat, corrosion, wear etc.

Read More Answers.

Question #75

Explain the disciplines of engineering?

Answer:-

The discipline of engineering is extremely broad, and encompasses a range of more specialized fields of engineering, each with a more specific emphasis on particular areas of applied science, technology and types of application.

Read More Answers.

Question #76



What you know about Engineering?

Answer:

Engineering word is derived from Latin ingenium, meaning "cleverness" and ingeniare, meaning "to contrive, devise" is the application of scientific, economic, social, and practical knowledge in order to invent, design, build, maintain, research, and improve structures, machines, devices, systems, materials and processes.

Read More Answers.

Question #77

Who is Engineer?

Answer:-

An engineer is a professional practitioner of engineering, concerned with applying scientific knowledge, mathematics, and ingenuity to develop solutions for technical, societal and commercial problems. Engineers design materials, structures, and systems while considering the limitations imposed by practicality, regulation, safety, and cost.

Read More Answers.

Question # 78

What is CNG (Compressed Natural Gas)?

Answer-

Compressed Natural Gas or CNG is stored on the vehicle in high-pressure tanks - 20 to 25 MPa (200 to 250 bar, or 3,000 to 3,600 psi). Natural gas consists mostly of methane and is drawn from gas wells or in conjunction with crude oil production. As delivered through the pipeline system, it also contains hydrocarbons such as ethane and propane as well as other gases such as nitrogen, helium, carbon dioxide, sulphur compounds, and water vapour. A sulphur-based odourant is normally added to CNG to facilitate leak detection. Natural gas is lighter than air and thus will normally dissipate in the case of a leak, giving it a significant safety advantage over gasoline or LPG.

Read More Answers.

Question #79

What is LNG (Liquefied Natural Gas)?

Answer:-

LNG (Liquefied Natural Gas) is natural gas stored as a super-cooled (cryogenic) liquid. The temperature required to condense natural gas depends on its precise composition, but it is typically between -120 and -170.C (-184 and -274.F). The advantage of LNG is that it offers an energy density comparable to petrol and diesel fuels, extending range and reducing refueling frequency.

Read More Answers.

Question # 80

What is LPG (Liquefied Petroleum Gas)?

Answer:

Liquefied Petroleum Gas or LPG (also called Autogas) consists mainly of propane, propylene, butane, and butylene in various mixtures. It is produced as a by-product of natural gas processing and petroleum refining. The components of LPG are gases at normal temperatures and pressures. One challenge with LPG is that it can vary widely in composition, leading to variable engine performance and cold starting performance. At normal temperatures and pressures, LPG will evaporate. Because of this, LPG is stored in pressurized steel bottles. Unlike natural gas, LPG is heavier than air, and thus will flow along floors and tend to settle in low spots, such as basements. Such accumulations can cause explosion hazards, and are the reason that LPG fueled vehicles are prohibited from indoor parkades in many jurisdictions.

Read More Answers.

Question # 81

What is Hydrogen or H2?

Answer:-

Hydrogen or H2 gas is highly flammable and will burn at concentrations as low as 4% H2 in air. For automotive applications, hydrogen is generally used in two forms: internal combustion or fuel cell conversion. In combustion, it is essentially burned as conventional gaseous fuels are, whereas a fuel cell uses the hydrogen to generate electricity that in turn is used to power electric motors on the vehicle. Hydrogen gas must be produced and is therefore is an energy storage medium, not an energy source. The energy used to produce it usually comes from a more conventional source. Hydrogen holds the promise of very low vehicle emissions and flexible energy storage; however, many believe the technical challenges required to realize these benefits may delay hydrogen's widespread implementation for several decades.

Read More Answers.

Question #82

What is What is the difference between CNG, LPG and LNG?

Answer:-

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