Biomedical Engineer Job Interview Questions And Answers

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Biomedical Engineer Interview Questions And Answers Guide.

Question - 1:
What piece of equipment do you enjoy working on the most?

Ans:
Every kinde of equipment, probably I would say those with configuring or something that has to do with softewr.

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Question - 2:
What equipment do you find most challenging?

Ans:
I feel the the most challenging instrument would be the X-ray machine.

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Question - 3:
What would you do if you had to switch careers?

Ans:
Stay in e field that had to do something close with biomedical technician.

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Question - 4:
How long do you plan on staying in this area?

Ans:
This is my home,so there isn't any plans tomove.

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Question - 5:
Would you like to advance your career in any other technical fields?

Ans:
No, this field in itself is very broad and have various options and as this field is constantly evolving it keeps us on our feet and helps us learn new things everyday.

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Question - 6:
What is DNA fingerprinting?

Ans:
DNA fingerprinting or genetic fingerprinting is a technique wherein a DNA sequence is used for identification of an individual. It is mostly used in forensics. Polymerase Chain Reaction and Short Tandem Repeats techniques are commonly used for DNA fingerprinting.

View All Answers

Question - 7:
What is Alzheimer's disease?

Ans:
Alzheimer disease is the most common form of dementia. It is a brain disease caused due to tau protein misfolding. This disease is incurable. This is degenerative disease. It can be diagnosed through MRI scan or PET. This disease is found in generally above 65 years of age. Its symptoms include irritation, confusion, mood

swings and aggression. This disease is named after German psychiatrist and neuropathologist Alois Alzheimer in 1906.

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Question - 8:

How often did you call days off at your previous employment?

Ans:

I feel as a Biomedical Technician Engineer it is more important for a person to be available for on-call services and I have learnt this from my past experience which has trained me in giving my most to this position.

View All Answers

Question - 9:

Explain what is blood brain barrier?

Ans:

Blood brain barrier is caused in central nervous system, when blood circulation is separated from the brain extra cellular fluid (BECF). This phenomenon occurs along all capillaries. It consists of tight junctions around the capillaries that do not exist in normal circulation. Cells of the barrier actively transport metabolic products such as glucose across the barrier with specific proteins. This barrier also consists of astrocytic end feet and also includes a thick basement membrane.

View All Answers

Question - 10:

Tell us what do you understand by MRI?

Ans:

MRI stands for Magnetic Resonance Imaging. This technique uses medical imaging that provides a detailed structure of internal organs; especially soft tissues.MRI provides good contrast between different soft tissues. A strong magnetic field is used in MRI which generates images and models of the specified organ. MRI works on the principle of nuclear magnetic resonance to generate image of nuclei of atoms inside the body.

View All Answers

Question - 11:

What is gram staining method?

Ans:

This method is used to identify bacterial species into two communities i.e. Gram positive and gram negative. This method is based on chemical and physical properties of their cell walls. It can be used to detect peptidoglycan, which is present in a thick layer in Gram positive bacteria. Purple/blue colour refers to the gram positive bacteria. Red colour stain refers to the gram negative bacteria. This method is very popularly used in the identification of bacterial organism.

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Question - 12:

Do you know what is LMO? State some of its importance?

Ans:

LMO stands for living modified organism. LMO are those organisms that have been genetically modified through the application of biotechnology. LMO also includes organisms that have been modified by novel recombinant DNA techniques as well as those that have been modified by mutagenesis or classical breeding and selection techniques. Importance of LMO's is that they can eat hazardous waste.

View All Answers

Question - 13:

Do you know what is therapeutic cloning?

Ans:

Cloning is a method of duplicating a DNA or a part of the DNA. Therapeutic cloning otherwise called somatic cell nuclear transfer is a process where an embryo is utilized. The embryo contains stem cells, which can be used in regeneration applications. Embryonic stem cells have the capability of renewing and are pluripotent that is it can transform or grow into more than 220 types of cells of the human body.

View All Answers

Question - 14:

What is technique of gene conversion?

Ans:

Gene conversion refers to the event in DNA genetic recombination. This event occurs at high frequencies during meiotic division but which also occurs in somatic cells. Through this process we can transfer DNA information from one DNA helix to another DNA helix, whose sequence is altered. Gene mutation can also be accomplished through this process. IT may lead to non-Mendelian inheritance. This phenomenon has often been recorded in fungal crosses.

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Question - 15:

How would you handle a situation that required you to fix two pieces of equipment in the same time?

Ans:

I would manage my time according to the urgency of the equipment required.

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Question - 16:

What is RCCS? What is its lifespan?

Ans:

RCCS stands for rotary cell culture system. It is a device designed to grow three-dimensional cell clusters in microgravity. This device was developed by NASA to study the cell tissues of mammals-including humans-in microgravity. Tissues grown in the RCCS are larger and three-dimensional, with structural and chemical characteristics similar to normal tissue. RCCS has no moving parts, thus cells are less prone to damage and hence provides longer life span.

View All Answers

Question - 17:

What is method of perfusion. State some of its drawbacks?

Ans:

Perfusion is the process of delivery of blood to a capillary bed in the biological tissue. Tests of adequate perfusion are a part of the patient assessment process performed by medical or emergency personnel. The most common methods include evaluating skin color, temperature, condition and capillary refill. Perfusion can be of two types over perfusion and under perfusion. Types of perfusion is classified according to the average level of perfusion across all tissues in an individual body, Tissues like the heart are considered overperfused and receive more blood than would be expected to meet the metabolic needs of the tissue.

View All Answers

Question - 18:

Tell us about a problem that you solved in a unique or unusual way. What was the outcome? Were you satisfied with it?

Ans:

While fixing the Sphygmomanometer the mercury wasnt able to rise and I was unable to find the problem or any holes in the rubber bulb and the cuff. So I removed the arm cuff with air in it and immersed it in the water. And I saw bubbles which identified the problem and confirmed that the arm cuff needed the replacement.

View All Answers

Question - 19:

Describe to me your education, what equipment did you specialize in during your training?

Ans:

I have a associates in science with a background in computer science. I learned alot of skills ranging from programming to computer repair. I am more than willing to be trained in a more specific piece of equipment related to biomed.

View All Answers

Question - 20:

Tell me what is EEG scan? Explain the wave patterns seen in an EEG scan?

Ans:

Electroencephalography is commonly known as EEG. It is the recording of the electrical activity along the scalp. This technique can measure the fluctuations in voltage resulting through the ionic flow of current within the neurons of the brain. In EEG multiple electrodes are placed on the scalp which is used to record brain's spontaneous electrical activity over a short period of time. EEG can be used for the diagnosis of coma, encephalopathies, and brain death.
Wave patterns commonly observed in EEG are delta - state of sleep, theta - drowsiness, alpha - relaxation, and beta - active thinking and gamma.

View All Answers

Question - 21:

Working on million dollar equipment can be stressful, how have you prepared to handle this?

Ans:

Working in the manufacturing industry could be stressful,so I have learned from experience to take a step back and analyze the situation.

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Question - 22:

Tell me about a situation when it was important for you to pay attention to details. How did you handle it?

Ans:

Being a team leader I was in charge of doing resets in store. I had to pay attention to how the merchandise manager wanted specific things done that were not listed. I was not afraid to have a pen and paper to get what I had to get done.

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Question - 23:

Performing work in a timely manner is very important for hospitals, and our services, tell me about your time management skills?

Ans:

I was a team leader for several years, and i had to manage my time between running my piece of equipment and handling other problems that could arise from my team mates.

View All Answers

Question - 24:

Explain the biological neuron model. How is it different from artificial neuron?

Ans:

Biological neuron is also commonly known as spiking neuron model. This model is mathematical description of the properties of the nerve cell or neuron. This model is formulated to predict and describe the biological processes. This is different from artificial neuron because, artificial neuron is based on computational effectiveness. Artificial neuron is based on the synaptic weight for determining the neuron output.

View All Answers

Question - 25:

Do you know what is epilepsy?

Ans:

Epilepsy is a neurological disorder. It occurs due to abnormal signals in the human brain. These abnormal signals cause seizures and unconsciousness.

View All Answers

Question - 26:

Explain differance between introns and exons?

Ans:

An intron refers to any nucleotide sequence within a gene which is removed by RNA splicing to generate the final mature RNA product of a gene. The term intron refers to both the DNA sequence within a gene, and the corresponding sequence in RNA transcripts. Introns are found in the genes of most organisms and many viruses.
An exon can be referred to a sequence in DNA or its RNA transcript. In broad sense. An exon is a nucleic acid sequence that is represented in the mature form of an RNA molecule.

View All Answers

Question - 27:

What are immunoglobulins? Explain its structure?

Ans:

Immunoglobulins are popularly known as antibody. These are large Y-shaped protein produced by B-cells that is used by the immune system to identify and neutralize foreign objects such as bacteria and viruses. Immunoglobulins are "Y" shaped structure which is having two tips and each tip of immunoglobulins contains a paratope. Immunoglobulins are typically made of basic structural units-each with two large heavy chains and two small light chains. The general structure of all antibodies is very similar; a small region at the tip of the protein is extremely variable.

View All Answers

Question - 28:

What is prosthetic limb? What are its drawbacks?

Ans:

It is an artificial device which can be used to replace a missing body part. It is based on the principle of biomechatronics. It can be used to replace body part missing from birth, due to injury or due to defect. The main drawback of prosthetic limb is its cost. Moreover, prosthetic limbs have to be replaced every 3-4 year due to the wear and tear. If the limb has fit tissues then the sockets in the limb have to be replaced every month.

View All Answers

Question - 29:

Explain the mechanism of ELISA. What are its uses?

Ans:

ELISA stands for enzyme linked immunosorbent assay. It is a wet lab type analytical biochemistry assay. It can detect presence of a substance in a liquid or wet sample by using one subtype of heterogeneous, solid-phase enzyme immunoassay. ELISA can be used as ligand binding assays. It is also used as a diagnostic tool in medicine and plant pathology. Quality check operations can also be performed in various industries with the help of ELISA.

View All Answers

Question - 30:

What is superiority of TLC over paper chromatography?

Ans:

TLC is superior over paper chromatography because of inorganic nature of adsorbent concentrated sulfuric acid spray. The spray is then followed by heating. It may be used to develop on the chromatogram by charring. Also, amino acid mixtures require 18 hours for separation on paper. It requires 3 hrs using cellulose TLC. The advantages of TLC lie in adsorbents which don't allow separation on paper. In TLC we have much wider choice of adsorbents depending upon needs and sample.

View All Answers

Question - 31:

Tell me what is Alzheimer's disease?

Ans:

Alzheimer's is a brain disease caused due to tau protein misfolding. It is an incurable disease and can be diagnosed in a PET or MRI scan. Alzheimer's is related more with aging, where the disease is detected in human more than 65 years of age. The symptoms are memory losses, stress, confusion and also aggression. Diagnosis is mostly done by behavior related tests.

View All Answers

Question - 32:

What is isotopic tracer technique?

Ans:

This technique is used to understand chemical reaction and interactions in bio-chemistry and chemistry. In this technique, one or more of the atoms of the molecule of interest is substituted for an atom of the same chemical element, but that element belongs to different isotope. It can be used to detect the difference in number of neutrons separately from the other atoms of the same element. The atom has the same number of protons; it will behave in almost exactly the same way chemically as other atoms in the compound, and with few exceptions will not interfere with the reaction under investigation.

View All Answers

Question - 33:

Basic Biomedical Engineer Job Interview Questions:

Ans:

* What is the treatment of HIV?
* What are the results of HIV?
* What is the current treatment given to AIDS?
* What does immunodeficiency results?
* What does myeloid immunodeficiency cause?
* How viral load can be measured?
* What is an abzyme?
* What is adoptive transfer?
* What is apoptosis?
* What is an agretope?
* What is a booster?
* What is bispecific antibody?
* What is antigenic competition?
* What is autograft?
* What is the self antigen for haemolytic anemia?

View All Answers

Question - 34:

Biomedical Engineer Job Interview Question:

Ans:

* What do you understand by the term "Bio-Technology"?
* What is of capacity Human brain memory ?
* What is Plasmid gene mutation ?
* What is the abbreviation of CTF-FTB?
* What are the different types of bio technology? Explain.
* What do you mean by bio ethics?
* What do you mean by bio-media?
* What is (LMO) Living Modified Organism?
* What is the disease caused by rota-virus?
* What is the disease caused by sabia virus?
* What is the disease caused by ebola virus?
* What happens when cautenous exposure occurs?
* How passive immunity is acquired?
* How is active immunity acquired?
* What s a toxoid?
* What are pathogens?
* Name some purified macromolecules derived from pathogens.
* Why purified macromolecules are used as vaccines?
* What is retrovirus?
* What is provirus?

View All Answers

Question - 35:

Fresh Biomedical Engineer Interview Questions:

Ans:

* What si the self antigen for scleroderma?
* What is allograft?
* what is xenograft?
* What are intereferons?
* What is an effector cell?
* What is an effector response?
* Name the target antigen for T cell anemia.
* What are exogenous antigens?
* What is an agglutinin?
* Why is buprenorphine less addictive than other opioids?
* Which type of immunoglobin level will increase when an individual is exposed to parasite?
* Where do most allergic reactions occur?
* What is an atopy?
* Who are atopic individuals?
* Explain blood brain barrier.

View All Answers

Question - 36:

Do you hold or are working on any further certifications for a specific piece of equipment?

Ans:

Yes, I plan to pursue a masters degree in health care administration or project management degree. I am also looking forward to be CBET certified.

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Question - 37:

What are forbidden clones?

Ans:

Clones refer to producing genetically identical individuals. Forbidden clones refer to clones of those cells which had immunological reactivity with self antigens. Embryonic life is eliminated from these types of clones. Such type of clones is called 'forbidden clones'.

View All Answers

Question - 38:

Unfortunate things may happen, if work is needed that requires you to work a double shift, how would you handle that?

Ans:

I would do that alot at my previous job. I see it as the more time hands on the more experiance.

View All Answers

Question - 39:

What is pathogens. Name some types of pathogens?

Ans:

Pathogens are those organism which feeds on other organism for their food. Pathogens can be transported through many different routes, including airborne, direct or indirect contact, sexual contact, through blood, breast milk, or other body fluids, and through the fecal-oral route. Pathogens can be used to suppress pest population. Different types of pathogens are viral, bacterial, fungal etc.

View All Answers

Question - 40:

Explain what is the principle behind DNA fingerprinting?

Ans:

DNA fingerprinting is the technique of genetic fingerprinting. In this technique, DNA sequence can be used for identification of an individual. The main application of DNA fingerprinting is forensics. The main principle behind behind DNA fingerprinting is Polymerase Chain Reaction. This technique is also popularly known as DNA profiling.

View All Answers

Question - 41:

What is a good reason to skip an inspection on a machine?

Ans:

I dont think there is any good reason to skip inspection. Inspection forms a very crucial part of maintaining an instrument which is needed all the time.

View All Answers

Question - 42:

What are the wave patterns seen in an EEG scan?

Ans:

Wave patterns seen in an EEG scan are delta - state of sleep, theta drowsiness, alpha - relaxation, beta - active thinking and gamma. Alpha also contains a mu-rhythm

View All Answers

Question - 43:

What is the riskiest decision you have made? What was the situation? What happened?

Ans:

I wrote a letter to my CEO asking if they would do a scholarship for me for school. I had lost my soccer scholarship due to injury so needed assistance. I was not expecting much from the letter, but his secretary called me and they awarded me a scholarship.

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Question - 44:

What is frame shift mutation? Is this mutation similar to single-nucleotide polymorphism?

Ans:

This is the type of mutation in which DNA sequence is changed due to addition and deletion of nucleotides. This mutation changes the code for amino acids. This is also called framing error or reading frame shift. This mutation will cause the reading of the codons after the mutation to code for different amino acids. No, this mutation is not similar to single-nucleotide polymorphism. In single-nucleotide polymorphism nucleotide is replaced, rather than inserted or deleted.

View All Answers

Question - 45:

Tell me what is therapeutic cloning?

Ans:

In the process of cloning DNA or a part of DNA is duplicated. This process is also called somatic cell nuclear transfer. In this process embryo is utilized for cloning. Embryo comprises of stem cells which is later employed in regeneration applications. The embryonic stem cells are renewable and are pluripotent.

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Question - 46:

Why did you choose a career as a biomedical technician?

Ans:

I wanted to work in a more professional enviroment and be able to help patients in an indirect way by using the knowledge and skills I have obtained from going through school.

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Question - 47:

Explain the difference between retrovirus and provirus?

Ans:

A retrovirus is a RNA virus which can be duplicated in a host cell using the reverse transcriptase enzyme. It can produce DNA from its RNA genome. The produced DNA is then incorporated into the host's genome by anintegrase enzyme. The RNA virus thereafter replicates as part of the host cell's DNA. Retroviruses are enveloped viruses that belong to the viral family Retroviridae.
Provirus is a virus genome which can integrate into DNA of host cell. In inactive viral infections the virus will not replicate itself but through replication of its host cell. This state can last over many host cell generations.

View All Answers

Question - 48:

What is a microarray?

Ans:

Microarrays are arrays where DNA oligonucleotides of DNA sequences are spotted as a matrix. Microarrays are used in gene expression profiling, single nucleotide polymorphism detection, detection of alternative splicing etc. Microarrays perform hybridization of cDNA using probes. A microarray chip has the capability to perform a large set of genetic related experiments simultaneously.

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Question - 49:

Are you at the point in your career where you are ready to write a manual for all newcomers to the field?

Ans:

No. I am a newcomer to the field and have a strong desire to learn and master the field that someday I can write the manual for newcomers.

View All Answers

Question - 50:

What are the commonly used technologies in medical imaging?

Ans:

Electron microscopy, Computer Tomography, radiography, thermography, nuclear medicine, fluoroscopy, ultrasound, Positron Emission Tomography and Magnetic Resonance Imaging.

View All Answers

Question - 51:

Explain the difference between gram positive and gram negative bacteria?

Ans:

In gram staining protocol, gram positive bacteria are stained dark blue or violet. Crystal violet stain can be retained by the gram positive bacteria because of the high amount of the peptidoglycan in the cell wall. Gram-positive cell walls typically lack the outer membrane found in Gram-negative bacteria.
In gram staining protocol, gram negative bacteria do not retain crystal violet dye. Gram negative bacteria have pathogenic capability. Gram negative bacteria have cytoplasmic membrane which is not present in gram positive bacteria.

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Question - 52:

Are you worried that remote diagnostics will replace your job? Tell me why it won't?

Ans:

A remote diagnostics may assess a device's status, yet cannot rectify the issue in real world, real time.

View All Answers

Question - 53:

Explain what is MRI?

Ans:

MRI is Magnetic Resonance Imaging. It is a medical imaging technique that gives a detailed structure of internal organs, especially soft tissues. MRI uses a strong magnetic field and generates images and models of the specified organ.

View All Answers

Question - 54:

How have you expressed enthusiasm for your career in the past?

Ans:

Each day is challenging and all issues we come across are new.

View All Answers

Question - 55:

What is BMI?

Ans:

BMI is Body Mass Index. It is a comparison of a person's height and weight. It is a person's weight divided by the square of the height. Its SI unit is kg/sq.m.

View All Answers

Question - 56:

Tell me about your experiences at your previous hospital? What equipment did you work on the most?

Ans:

In my experience at the previous hospital, I learned how to maintain test, calibrate, and repair the medical devices, such as electro surgical unit, defibillators, and infusion pumps.

View All Answers

Question - 57:

What is microarrays. How are they related to DNA?

Ans:

Microarrays are matrix in the form of arrays where DNA oligonucleotides of DNA sequences are spotted. They can be used for gene expression profiling, single nucleotide polymorphism detection, detection of alternative splicing and for various other purposes. Microarrays have the capability to perform hybridization of coda with the help of probes. A microarray chip is capable to perform a large set of genetic related experiments concurrently.

View All Answers

Question - 58:

What is myoelectric control?

Ans:

Myoelectric control uses the signals from a residual limb for the movement of the prosthetics. Myoelectric control technologies obtain signals from the skin on the limbs.

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