

Exam Questions

1: The academic disciplines that psychology was built upon are the philosophy and physiology. Psychology's evolution as a separate discipline, was influenced by Wilhelm Wundt. Wundt was influenced by disciplines as philosophy and physiology and his ideas shaped the new psychology.

2: The zeitgeist or the environment of the 17th century to 19th centuries was the environment where the modern psychology got nourished. Zeitgeist refers to the intellectual climate of the times. That include the social, economic, and political forces of one specific period. As psychology was not able to depend only on subjects and in internal influences but it also needed for external forces as well to shape its nature. So, zeitgeist was an external force that by just being had influenced psychology and its development. In 17 century the main and basic context was seeing universe as mechanism and a great machine. Observation and experiment were the two other great aspects of science. In this period of the time the whole universe was being seen as a clock and was believed that the entire universe behaves as a clock. In this century empiricism become important that means the pursuit of knowledge through observation and experimentation.

3: Determinism is the belief that every act is determined or caused by the past event. In other words, determinism is the belief that the present behaviors of a person were decided by his past experiences. Empiricism is the pursuit of knowledge through experimentation and observation. In this method every knowledge was observed by its nature and in the time that empiricism was about to be applied experimentations were being done in the knowledges and idea. When empiricism came out many philosophers entered to this approach. Empiricism was a method of atomistic, mechanistic, and positivistic. Beside all these the most important work of empiricism that shaped the new scientific psychology was about to become evident.

4: John Locke was concerned with cognitive functioning, and how the mind acquires its knowledge. He believed that humans are not born with any knowledge. Locke also believed that the mind acquired knowledge through experience, and he recognized two kinds of experience that was sensation and reflection. Simple sense impressions are those physical objects in the environment and when these simple sense impressions operate on the mind and the mind itself also operate on the sensations, reflecting on them to form ideas. Rene Descartes had a great talent in philosophy, physic, physiology, and mathematic. He believed that mathematical principle can be applied to all the science and produce certainty of knowledge. Descartes is also one of the most important contributors in psychology as well. One of his most important attempts was to resolve the mind-body problems that was an issue for centuries. Descartes accepted in his work that mind and body were indeed of different essences. In Descartes's theory of mind-body interaction, the mind influences the body, and the body exerts a greater influence on the mind than previously supposed. He also believed that the mind has a single function: thought, and the other processes were only functions of the body. His work toward the notion that human behavior is predictable is also supported the growing trend in science. He found confirmation in contemporary psychology for his mechanical interpretation of the workings of the human body.

5: Sprite of mechanism means the image of universe as a great machine. It simply says that all natural processes are mechanically determined and are capable of being explained by the laws of physics and chemistry. The idea of mechanism originated in physic, then called natural philosophy, because of the work of the Italian physician Galileo Galilei.

6: John Stuart Mill was agreed with Locke's suggestion that the human mind is like a blank slate on which experiences would write at birth. When his son was born, he wanted to do an experience in this regard and fill the boy's mind. He took a private tutor and up to five hours a day he drilled the child in Greek, Latin, algebra, geometry, logic, history, and political economy. At the age of 3 his child could read Plato in Greek... his son was raised on a situation with lack of love and full of fear, when he was 21, he got severe depression due to the situation that he was raised.

7: Kinnerbrook was assistant for the Royal astronomer named Reverend Nevil Maskelyne, in England Greenwich. Kinnerbrook was studying the speed of the stars that were passing from one point to another. Kinnerbrook's mistake started with a difference of five-tenths of a second, and when Maskelyne found out about this difference, he rebuked Kinnerbrook for his mistake. When he wants to make this difference correct the mistake got worse and this time it was eight-tenths of a second. These mistakes made Bessel 20 years later to study more about the differences and then he called it "personal equation".

8: Physiology was experimentally oriented discipline in the 1830's by the German physiologist Müller. One of his famous theories is specific energy of nerves. Physiology was important to the discipline of psychology due to the belief that the stimulation of a particular nerve always leads to a specific characteristic sensation, because every sensory nerve has its own energy. Physiology has studied the brain functions by conducting direct research on the brain tissues. These studies all lead to finding different parts of the brain and labeling them. Physiology is important to the field of psychology because it refined the research methods that later become important in the field of physiological psychology. The physiological psychology field combines the physical structure of the brain and our consciousness and thoughts.

9: Extirpation method was a method in which the researcher attempts to destroy or remove a part of the brain to observe the changes in the behavior of the animal. So, extirpation was a method in which for determining the function of a specific part of the brain of the animal, a specific part of the brain would get damaged intentionally only for the examining of the animal's behavior. Extirpation method and the clinical method are related together, and the clinical method can be a useful supplement to extirpation. A clinical researcher already would have a subject to do study upon and that subject can be the animal after the extirpation research.

10: Experimental psychology developed in Germany more than any other France and England, because in Germany there was a psychologist that fertilized the experimental psychology more than any other places. But it was biology that flourished in England and France more than Germany. In Germany freedom of teaching was another reason for developing the experimental psychology. So, professors had a great role in this development, they were not only teaching what they had to but they also were teaching what they wanted to. Also, as a researcher living was easier in Germany than France and England.

11: Helmholtz born in Germany and lived from (1821-1894). His most important works were on psychology optics, his research in acoustical problems in on the sensation of tone, and research as color blindness, human eye movements and his other research. He was emphasizing that human's organs are working as a machine that is how he was good at technical and mechanical analogy. He also is the scientist who compared the transmission of nerve impulses to the operation of the

telegraph. One of the most effective research projects that Helmholtz did is his investigation of the speed of the neural impulse and his research on vision and hearing. Before Helmholtz's research and finding scientists were thinking that the nerve impulse was instantaneous, or it is that fast that cannot be measured. But he did an experiment that he conducts the stimulating motor nerve. He attached muscle in the leg of a frog and for the first time he records the result of the movement and the moment of the stimulation. He also records the delay time between the stimulation of the nerve near the muscle, the muscle's response, and he did the same for stimulation from the muscle. These records were showing 90 feet per second as is the natural speed. He found out that the nerve movements are not instantaneous, but it has a movement with a measurable interval.

Another study was on vision that had a great role in the new psychology. He investigates the external eye muscles and the mechanism that the internal eye focus on lens by that. Then he published his most important research the theory of young-Helmholtz color vision. The importance of his works and research are obvious as they are still being used and being cited in the modern psychology textbooks.

12: Ernst Weber was a German anatomist and psychologist who discovered the two-point threshold. In this experiment, without looking at the apparatus subjects are asked to report whether they feel one or two points touching the skin. When the two points of the stimulation are close together, subjects report a sensation of being touched at only one point. As the distance between the two sources of the stimulation is increased, subjects report two distinct points of touch. The procedure demonstrates the two-point threshold, the point at which the two separate sources of stimulation can be distinguish.

13: Just noticeable difference is the smallest difference that a person can detect between two weights. Weber asked people under the study, that after lifting the weights that one weight was standard weight and the other was a comparison weight, how much they feel the weights. Small differences were resulted to judgment of the sameness and larger differences resulted in judgment of a difference between the weights. The just noticeable difference was a constant ratio 1:40 of the standard weight. For example, the weight that actually was 40 grams, reported as 41 grams and the weight of 80 grams was reported as 82 grams.

14: Fechner measured the sensation by two ways that were absolute threshold and differential threshold. In absolute method of measuring sensation first, we should make sure that if the stimulus is present or not. Second, we can measure the intensity of the stimulus, in which a subject can feel the sensation. This method is useful, but its usefulness is limited because in this method we can measure only one value of sensation. That is how the second method was suggested by Fechner and is called differential threshold of sensitivity. This method measures the least amount of change in a stimulus that gives rise to a change in sensation. For instance, in this method it would be determine that how much weight should be increased or decreased in the previous weight before the subject sense the difference.

The two ways that Fechner propose for measuring the sensation also can be, the inner psychophysics and outer psychophysics. He believed that inner psychophysics referred to the relationship between the sensation and the brain or nerve excitation. In outer psychophysics the relation between stimuli and the subjective intensity of the sensation was being studied.

15: Fechner believed that changes in sensation depends on the logarithm of stimulus intensity. He showed this relation with an equation as $S=K \log R$. In this equation S =magnitude of the sensation, k = a constant and R = the magnitude of the stimulus. It means that one increase arithmetically and the other geometrically. He says that the quantitative relationship between stimulus intensity and the sensation is as important as to the discovery of the laws of gravity.