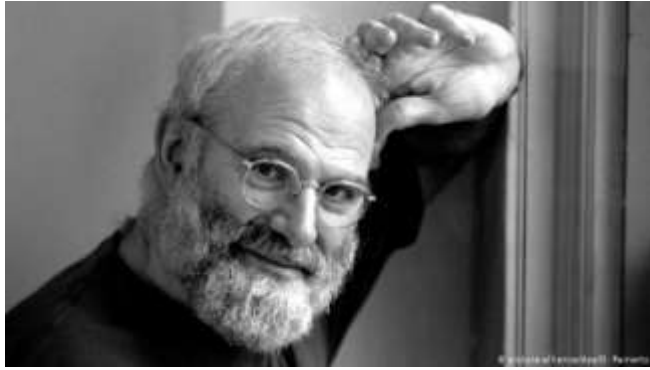




**BEAUTIFUL  
MIND IAS**

# 101 Modal Question/ Answer In psychology



**11. Define sensation and perception. Is it possible to have sensation without perception? What about perception without sensation? Answer both questions, using relevant examples cited in the text or from other sources.**

Ans: In the process of sensation, raw physical energy from the environment (e.g., light waves) is absorbed by our different sensory systems

(e.g., receptor cells in the eyes) and then converted into neural signals that are sent to the brain. In perception, these neural signals are selected, organized, and interpreted (e.g., we "see" someone we know). Yes, it is possible to have sensation without perception. For example, your text discusses the work of neurologist Oliver Sacks (1995), who presents a case study of a man who had been blind since he was a young child. When this man's sight was restored through surgical procedures, he could detect light, forms, movement, and colour (he could sense), but he was unable to organize and interpret this information (no perception). He "saw, but didn't know what he saw! . There is an ongoing debate about whether it is possible to have perception without sensation(ESP). Some people (parapsychologists) believe that there are three types of extrasensory ability (telepathy, clairvoyance, and precognition). Some early evidence suggested that ESP may be possible (Rhine's work in the 1930s, discussed by your textbook author). However, much of the so-called "evidence" is anecdotal in nature; aside from these colourful stories, there is little truly compelling research evidence for ESP .

**12. What are pheromones and how do they affect behavior? Is there such a thing as a human pheromone?**

Ans : Pheromones are chemicals secreted by animals to transmit signals (for example, a readiness to reproduce) to others (usually of the same species). Pheromones are implicated in the reproductive activity of bees, dogs, ants, and so on. However, there does not appear to be a human pheromone. Studies do indicate that humans can recognize other people by their body odor, but there is no hard evidence that we secrete a sexual attractant that influences the mating behaviour of other humans.

**13. Last week, Teresa fell and broke her foot. Although her doctor prescribed painkillers, she does not want to use them. Knowing that you are taking an introductory psychology course, she turns to you for advice. What two psychological approaches or methods can you suggest that Teresa use in order to reduce her pain? Be specific in your recommendations to her,**

Ans : The first approach you might tell Teresa about is the "gate control" theory of pain. According to this theory, the nervous system can only process a limited number of sensory signals at one time. When the system is full, the spinal cord shuts a neural "gate" that blocks the passage of additional signals to the brain. The implication is that Teresa can stop or alleviate some of the pain caused by her broken foot by stimulating other areas of her body and creating competing sensations (she could, for example, have a deep massage, or rub her other foot very hard). The second approach is to block the pain from conscious awareness by practicing psychological control-basically, you could tell Teresa to "just not think about it." Although this can backfire (research suggests that the more we try to suppress a particular

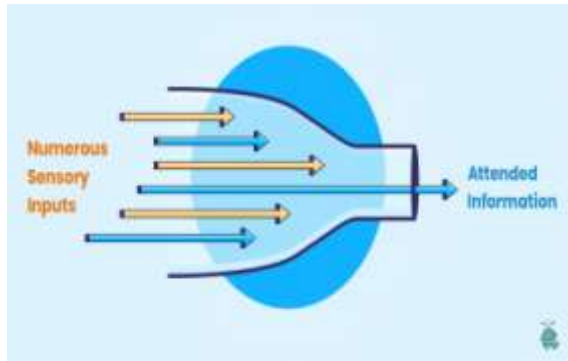
thought, the more readily it actually pops into our minds), Teresa could use a procedure called focused self-distraction." This involves focusing on a specific aspect of the environment or of experience (for example, "What will I do tonight when I get home from school?") and thereby distracting oneself from the pain .

**14. What is a sensory "crossover"? Is this a common experience?**

Ans: Sensory crossovers happen when information that is received from one sensory system crosses over and are experienced by another sensory modality. For example, people with synaesthesia ("joining the senses") might report that bright lights sound "loud;" thus, visual sensory information has crossed over and been experienced as auditory. This is, however, a rare condition. As a general rule, our sensory systems do not cross, and each system operates independently of the other .

**15. Depth perception is an innate skill all humans have at birth." Agree or disagree with this statement.**

Ans : Well, there is still a debate about this question! Research with infants using the "visual cliff (a glass-covered table top with a shallow drop on one end and a cliff on the other) suggests that depth perception is evident at very young ages. Infants will crawl across the clear table top toward their parents at the shallow end, but they will not cross to the steep end; this suggests that they perceive the difference in depth. This suggests that depth perception might be innate; however, critics argue that perceptual learning begins at birth, and so by Six months of age an infant has already had lots of perceptual practice. Cross-cultural research provides additional evidence that learning plays a large role in perception; your text presents a case study of a Pygmy who "saw" distant buffalo as insects when he was taken from his dense forest home to an open plain. His life experiences in the forest had been with objects densely packed together-objects that appeared small were small, in his experience. In sum, depth perception may be innate, but it is highly influenced by experience .



**16. What is selective attention and how does it affect consciousness? Give an example of selective attention in two different sensory modalities.**

Ans: Selective attention is the process in which people are able to focus on a single stimulus and ignore other, competing stimuli. This affects the information that is included or excluded from consciousness; through this process, we become aware of one stimulus but then we lose conscious awareness of the other stimuli.

You could draw your examples from any sensory modality. For example, in the auditory modality (hearing), research indicates that people who are presented with two messages at the same time (this is called a dichotic listening task) are able to shadow one of the messages with great accuracy; however, they lose track of the other message. The same phenomenon may happen in the visual system. For instance, people who watch two videotapes, one superimposed on the other, are able to follow the action and events of one videotape but they become unable to focus on and remember the events of the other.

**17. Is the circadian rhythm of the human sleep-wake cycle controlled by endogenous factors alone? Consider evidence from isolation studies in your answer.**

Ans: No, the human sleep-wake cycle is not controlled solely by endogenous (internal) factors, although we do have a "timing device" in our brains in the form of the hypothalamus and the pineal gland; these structures take in information about light from the optic nerve and then work to either facilitate or retard feelings of sleepiness. Evidence from isolation studies suggests that the human sleep-wake cycle is at least partly determined by outside patterns of lightness and darkness. The story of a woman who volunteered to live in a cave that was sealed off from any environmental cues (e.g., sunlight, outside noises, temperature changes, clocks). Over the course of her 131-day stay in the cave, her "day" had extended to 48-hours; she slept and woke up later and later. However, when reexposed to sunlight, she readjusted her biological clock.

**18. Why do humans sleep? Consider two theories about the purpose or function of sleep.**

Ans: There are two theories about why humans seem to need sleep. The first is restoration theory, which states that sleep is a time for the body to rest and repair or restores itself from the exertions of the day. This theory accounts for the feeling of rejuvenation most people feel after a night's sleep and is supported by research on sleep deprivation using animals (in which animals placed in stressful situations and deprived of sleep became ill and ultimately died). How the autonomic nervous system regulates the internal body environment; when we are resting, our parasympathetic system is engaged in conserving energy and getting us ready for the next time we need to be active. The second major theory of sleep is the circadian explanation, which focuses on the adaptive purpose of sleep. According to this theory, sleep is an evolved mechanism that enables us (and all other species) to conserve energy and minimize our exposure to predators. Humans sleep at night because such behaviour is adaptive; our eyes are not equipped to see well in the dark, and so it makes evolutionary "sense" for us to be quiet and protected during times of darkness.

**19. Discuss whether REM sleep is biologically adaptive. Consider three sources of evidence when constructing your answer.**

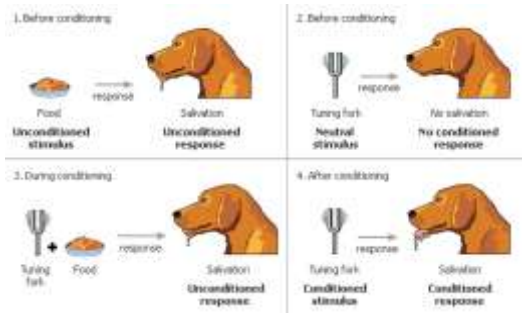
Ans: Most researchers now believe that REM sleep is biologically adaptive. There are three sources of evidence in support of this belief. First, there is evidence that suggests that REM sleep is necessary for brain maturation; that is, the brain is incredibly active during REM sleep, and REM sleep therefore may be a way for the brain to test drive itself. Indeed infants (whose brains are still developing) spend more time in REM sleep than older children and adults, and premature infants spend even more time in REM sleep. Cross-species comparisons provide the second source of evidence for the biological benefits of REM sleep—all mammals and most birds experience REM sleep, which suggests that cognitive complexity and cortex development go hand in hand with REM sleep. Finally, when people are deprived of REM sleep one night, they experience a "rebound effect" by spending more time in REM sleep the next night (it's as if the brain is trying to make up for lost REM time).

**20. Is hypnosis an "altered" state of consciousness? Compare the special-process and social psychological response to this question.**

Ans: Psychologists do not agree on the answer to this question. Special-process theorists argue that hypnosis is in fact a unique state of consciousness in which one part of the mind dissociates or operates independently of another. Theorists who follow this approach point to evidence from pain-tolerance studies in which participants immersed their hands in ice water and rated their level of pain. Those who were hypnotized to "feel no pain" reported less pain than non-hypnotized individuals. However, when they were told to press a key with their free hand if "some part" of them was in pain, they did so; this suggests that they experienced a division of consciousness, with one part feeling pain that the other part did not. Social-psychological theories argue that hypnosis does not result from a division of consciousness but rather from social influence processes. For example, it is possible that hypnosis effects are the result of a desire to comply with experimenter suggestion. Research indicates that the same pain tolerance effects outlined above can result simply from instilling sufficient motivation in participants. At this point, both theories may explain the phenomenon--perhaps highly motivated people experience hypnosis as a dissociative state.

**21. Is classical conditioning a mindless, automatic process? Compare the original Pavlovian View of classical conditioning with the more recent cognitive reconceptualization of this form of learning.**

Ans: The original Pavlovian conceptualization of classical conditioning stated that classical conditioning occurs whenever a neutral stimulus (like the sound of a tone) is paired with an unconditioned stimulus (like food). This was assumed to be a rather mindless process; the dog or cat or person does not need to think in order to acquire the conditioned response (drooling). However, more recent work (particularly by Rescorla) suggests that the organism is much more active, from a cognitive perspective, than the earlier model states. Specifically, the dog or cat or person might drool after hearing the sound of a tone because prior experience has led him or her to expect food. Here, the organism is much more than a simple recipient of classical conditioning principles; the tone has come to take on psychological



significance (in this case, the expectation that food will shortly be presented) which in turn affects behavior (drooling).

**22. A family friend is about to undergo chemotherapy treatment for a mild form of cancer. His doctors disagree over the best treatment program. Doctor A believes in the benefits of establishing and following a regular treatment routine. She has recommended that your friend arrive at the same hospital each week on the same day, and that chemotherapy occur at the same time in the same room and with the same technician. Doctor B prefers a more varied treatment regimen. She suggests that your friend receive the same dose of chemotherapy, but in different hospitals and with different technicians each week. Whose advice should your friend follow? Base your answer on recent research on classical conditioning and the immune system.**

Ans: Assuming that my friend receives the same quality of care and the same chemotherapy dose in both treatment programs, he or she should probably follow the advice of Doctor B (the varied program). Recent research suggests that classical conditioning processes can actually weaken the immune system—something my friend cannot afford. For example, chemotherapy drugs (US) cause two responses - inhibition of new cancer cell growth and inhibition of immune cell growth (UR). It's possible that cues in the surrounding environment (like a particular treatment room or a particular technician who administers the chemotherapy) become associated with the chemotherapy drugs (US) and thus serve as powerful conditioned stimuli (CS). The consequence, of course, is that these environmental settings can actually result in the CR (immune cell inhibition). Thus, it would be best for my friend to undergo treatment in varied settings; this would prevent his or her immune system from “learning” to weaken in response to a particular situational cue.

**23. Andre's roommate never picks up her clothes. Andre has been taking an introductory psychology course, and as he is reading about operant conditioning he decides to use positive reinforcement to change his roommate's behaviour. Define positive reinforcement and give an example of how Andre might use operant conditioning in this situation.**

Ans: Positive reinforcement involves presenting a stimulus in order to increase the likelihood of a particular response. There are a number of positive stimuli that might work in this situation. For example, Andre might smile and thank his roommate every time she engages in the desired behavior; alternately, he might loan his roommate a CD, or bake her cookies or type a paper for her. The problem with using positive reinforcement in this situation is that Andre can only reinforce a behavior that actually occurs--and we know that his roommate does not pick up her clothes. Thus, Andre must rely upon shaping, a process in which he will gradually guide his roommate toward the desired response by reinforcing responses that come closer and closer to it. For example, Andre could smile and thank his roommate (or give her food or whatever) every time she hangs her coat up, or every time she throws her clothing down in the general vicinity of the laundry basket or closet. After a while, Andre might only



reinforce his roommate for leaving clothing three feet from the laundry basket/closet, then one foot from the basket/closet, and so on.

**24. Becky's dog Abigail eats the legs of chairs. Becky is running out of usable chairs and she wants this behavior to stop. She is thinking of using punishment to change Abigail's behavior. Should she? Define punishment and discuss when it is most effective. Consider the possible consequences of punishment.**

Ans. Punishment is anything that decreases the likelihood of a behavior. It's a coin toss as to whether Becky should or should not use punishment to stop her dog's behavior. On the one hand, punishment that is strong, immediate, consistent, and inescapable does appear to suppress unwanted responses. However, punishment can have unwanted side effects. For example, punishment may temporarily inhibit a behavior but not extinguish that behavior.

That is, Abigail may stop chewing on the chairs in Becky's presence, but continue do so when Becky is not in the house (she may also stop her chewing behavior in Becky's house, but then destroy the chairs in other people's houses). In addition, punishment only teaches an individual what not to do; it does not teach that individual what to do. Abigail may learn not to chew chairs, but she will not learn which objects are acceptable to chew (like toys or bones). Third, punishment may backfire if the attention is rewarding -perhaps when Becky scolds her, Abigail gets the attention that she wants. Finally, punishment may cause fear, anger, and aggressive responses-perhaps Abigail will learn to fear Becky rather than learning not to chew, or perhaps she will bite Becky out of anger or mistrust or fear. In sum, Becky might try punishment (immediate, consistent, etc.) that is coupled with positive reinforcement for desired behaviours.

**25. Outline and describe (using an example) the four steps involved in observational learning In what way does operant conditioning play a role in observational learning?**

Ans. Observational learning involves four related steps. First, to learn by observation, we must attend to the model's behavior and to the consequences of that behavior. For example, Child A might see Child B help Child C go down a slide at the park, and then see Child B receive praise for her actions. Second, we must recall what we originally observed. In order for Child A to learn from the behavior or Child B, he or she must think about and remember that behavior and its consequences. Third, we must have the ability to actually reproduce the modeled behavior. Child A may attend to and remember Child B's helpful behavior, but physically be unable to climb a ladder and help another child down a slide. Fourth, we must be motivated to engage in the modeled behavior. Child A could be able physically to help another child go down a slide, but be too tired to do so or involved in another, more interesting activity. Operant conditioning plays a role in the last step of observational learning-motivation. Specifically, our motivation to engage in a modeled behavior is not only affected by the consequences we've seen the model receive (vicarious reinforcement and punishment), but also by our own direct personal experience with reinforcement and punishment. For example, if Child A has been reinforced in the past for helping other children on the swing set, he or she may be motivated to model a different form of helping behavior.



**26. The sensory memory system is capable of storing information for only a brief period of time. What is the point of forming memories that are lost almost immediately?**

Ans: Although it might seem pointless to create sensory memories that fade almost immediately Such memories actually serve an incredibly important purpose. Specifically, these memories provide continuity between

our perceptions of an event or stimulus. For example, the visual icon preserves an image of what we are seeing in memory, so that when we blink we do not experience a disturbance of that image. Without iconic memory, we would "see" the image as a series of disjointed snapshots rather than as a continuous, flowing film. The same purpose is provided by echoic and other forms of sensory memory.

**27. What is the serial-position effect? What explains this effect?**

Ans: The serial-position effect is the tendency for information that is presented earlier (this is called the primacy effect) and later (this is called the recency effect) to be better remembered than information that is presented in the middle. For example, if you received a list of words or met a series of people, you would probably remember the words or people first encountered (primacy) and those last encountered (recency); words and people sandwiched in the middle would not be recalled as well.

For example, primacy Different factors may be responsible for primacy and recency. Appears to be a function of time spent rehearsing. That is, we begin rehearsing the first items, and can give them our undivided attention. However, we are less able to give attention (and devote time) to subsequent items. As noted by your author, the recency effect is harder to explain. It used to be thought that the last items were better remembered because they were still fresh in short-term storage when the recall test began; so, essentially, all the person had to do was "dump" whatever information was currently in short-term memory (and this information was the most recent, naturally). However, subsequent research indicates that this information may be better recalled not because it is still active in short-term memory, but because it is more distinctive.

**28. While walking to the university one day, Eric witnessed a man driving a car run through a stop sign. Later that day, his friend Sandy asks him about the incident. Eric remembers the event, but he can't seem to recall the man's face or the color of the car What four factors might explain Eric's memory failure?**

Ans: Four factors might account for Eric's memory failure. The first two have to do with the possibility that the information is simply not in long-term memory. For example, it is possible that Eric saw the event, but he never actually encoded the information about the man's face and the car's color-he is unable to retrieve the information because it is not there and it never was there (this is called encoding failure). It is also possible that Eric did encode the information, but the memory for the man's face and car's color eroded with the passage of time (this is called decay theory). The next two factors that might explain Eric's memory For failure have to do with the possibility that the memory exists but cannot be retrieved. For example, it is possible that other information is interfering with Eric's ability to retrieve the relevant details (perhaps he saw another person run a stop sign last week, and this old information



is proactively interfering with the retrieval of the new information; or perhaps he saw another person run a stop sign right after the first man did, and this newer information is retroactively interfering with the first information). Finally, Eric may have encoded the information, but be unable to remember it due to a form of motivated forgetting called repression (perhaps the sight of the man running the stop sign brought back traumatic memories of a traffic accident Eric once saw, and so he "forgets" what he's seen as a way of keeping that other painful memory out of awareness).

**29. Knowing that you are studying memory, a friend approaches you and asks for help in learning material for a big history exam. What techniques might you suggest that your friend follow or use in order to prevent forgetting the material?**

Ans: There are several methods you could suggest to your friend to help him or her prevent forgetting the material. For example, your friend could increase his or her practice time; could think actively and deeply about the material; could organize and learn the material hierarchically; could make use of verbal mnemonics (e.g., rhymes, acronyms); could use the method of loci; could use the peg-word method; could attempt to reduce the likelihood of interference (e.g., by studying right before sleeping to minimize subsequent distracting information); and could attempt to reinstate the context in which learning occurred (i.e., make sure that the learning and testing context or situation are the same).

**30. Your text presents a quotation by Vaillant (1977) in which he noted that "maturation makes liars of us all." Explain what he means, using research on autobiographical memory.**

Ans: This quotation refers to the revisionist nature of our autobiographical memories. That is, it seems common for people to "remember" the past in a self-serving and self-esteem-enhancing way. For example, we tend to exaggerate our own role in past events (we see ourselves as central players rather than in bit parts). We also demonstrate something called the hindsight bias, which is the tendency to believe after an event occurs that we actually knew all along what was going to happen ("I just knew it would turn out this way;" "I've always said that she would go far in life"). This hindsight bias can cause us to revise our personal histories in ways that reflect favourably on us. For example, if we come to believe that exercise is good for our health, we may "remember that we were more athletic in high school and college than we really were. We also update the past in ways that enhance our self-concept or self-esteem. Your text discusses a study in which college students were asked to recall their high school grades; when the researchers checked the accuracy of these grade reports. They found a tendency to overinflate rather than to underinflate grades.

**31. What is trial and error? Explain this problem-solving strategy, using a specific example from your own experience. What are the consequences (positive and negative) of using trial and error?**

Ans: Trial and error is the simplest problem-solving strategy, and it involves a "hit or miss approach to a problem. Essentially, one would try a hodgepodge of potential solutions to a problem, in no particular order, and hope that one of these was correct. Any example from your own experience would be fine. For instance, I sometimes get an "error" message on the screen of my computer when running the SPSS statistical package. Often, I just go back to my command file and "tinker" with the commands; I might remove a comma, add a period, and so on. Then I try to rerun the analysis. I do this until the system accepts my command and runs the analysis completely (or I get too tired and frustrated and put it