READING PASSAGE 3

*You should spend about 20 minutes on **Questions 27-40**, which are based on Reading Passage 3 below.*

Unlocking the mystery of dreams

Dreams have captivated thinkers since ancient times, but their mystery is now closer than ever to resolution, thanks to new technology that allows scientists to watch the sleeping brain at work.

A Thousands of years ago, dreams were seen as messages from the gods, and in many cultures, they are still considered prophetic, foretelling things to come. In ancient Greece, sick people slept at the temples of Asclepius, the god of medicine, in order to receive healing dreams. Modern dream science really begins at the end of the 19th century with Sigmund Freud, who theorized that dreams were the expression of unconscious desires often from childhood. He believed that exploring these hidden emotions through analysis could help cure mental illness. After Freud, the most important event in dream science was the discovery in the early 1950s of a phase of sleep characterized by intense brain activity and rapid eye movement (REM).

B Adult humans spend about a quarter of their sleep time in REM, much of it dreaming. People awakened in the midst of REM sleep reported vivid dreams, which led researchers to conclude that most dreaming took place during REM. Using a machine called the electroencephalograph (EEG), researchers were able to see that brain activity during REM resembled that of the brain when the body is awake. The mystery of REM sleep is that even though it may not be essential, it is universal – at least in mammals and even birds. Some researchers think REM may have evolved for physiological reasons. “One thing that’s unique about mammals and birds is that they regulate body temperature,” says neuroscientist Jerry Siegel, director of UCLA’s Center for Sleep Research. “There’s no good evidence that any cold-blooded animal has REM sleep.” REM sleep heats up the brain and non-REM cools it off, Siegel says, and that could mean that the changing sleep cycles allow the brain to repair itself. “It seems likely that REM sleep is filling a basic physiological function and that dreams are a kind of a side effect, or by-product of this.”

C There is great disagreement about the psychological function of dreams and researchers have come up with some differing theories. On one side are scientists like Harvard’s Allan Hobson, who believes that dreams are essentially random. In the 1970s, Hobson and his colleague Robert McCarley proposed what they called the “activation-synthesis hypothesis,” which describes how dreams are formed by nerve signals sent out during REM sleep from a small area at the base of the brain called the pons. These signals, the researchers said, activate the images that we call dreams. That raised questions about dream research. If dreams are insignificant night-time images created by the brain, what is the point of studying them?

D But more recently, new theories have made some scientists take dreams more seriously. In 1997, Mark Solms of the University of Cape Town in South Africa found that there was more than one mechanism in the brain for activating dreams. Since then, Solms has argued that medical diagnostic equipment like functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) that helps researchers watch dreaming brains might actually lend new support to Freud's ideas because the parts of the brain that are most active during dreaming control emotion. Further research has supported Solms's findings. Scientists using PET and fMRI technology to watch the dreaming brain have found that one of the most active areas during REM is the limbic system, which controls our emotions.

E Much less active during REM sleep is the prefrontal cortex, which is associated with logical thinking. That could explain why dreams in REM sleep often lack a coherent story line. Some researchers have also found that people dream in non-REM sleep as well, although those dreams generally are less vivid. Another active part of the brain in REM sleep is the anterior cingulate cortex, which detects differences or inconsistencies. Eric Nofzinger, director of the Sleep Neuroimaging Program at the University of Pittsburgh Medical Center, thinks that could be why people often solve tricky problems in their dreams.

F Deirdre Barrett, assistant professor at Harvard Medical School, would agree. In her book "The Committee of Sleep," she describes how painters like Jasper Johns and Salvador Dali found inspiration in their dreams. In her own research on problem solving through dreams, Barrett has found that even ordinary people can solve simple problems in their lives (like how to fit old furniture into a new apartment) if they focus on the dilemma before they fall asleep. There is also evidence that dreaming helps certain kinds of learning. Some researchers have found that dreaming about physical tasks, like a gymnast's floor routine, enhances performance.

G Whatever the function of dreams at night, they clearly can play a role in therapy during the day. The University of Maryland's Clara Hill, who has studied the use of dreams in therapy, says that dreams are a "back door" into a patient's thinking. "Dreams reveal stuff about you that you didn't know was there," she says. The therapists she trains to work with patients' dreams use dream imagery to uncover hidden emotions and feelings. Rosalind Cartwright from the university medical center in Chicago has been studying depression in divorced men and women, and she is finding that "good dreamers," people who have vivid dreams with strong story lines, are less likely to remain depressed. She thinks that dreaming helps diffuse powerful emotions. "Dreaming is a mental-health activity," she says.

Questions 27–31

Reading Passage 3 has seven paragraphs, ***A–G****.*

Which paragraph contains the following information?

Write the correct letter, ***A–G****, in boxes 27–31 on your answer sheet.*

27 a reference to the significance of dreams on artists' work

28 a concern about the usefulness of dream research

29 the types of living creatures that have REM sleep

30 research results linking dreams to psychological well-being

31 an account of how modern research tools have strengthened Freud's theory

Questions 32–35

*Choose the correct letter, **A**, **B**, **C** or **D**.*

Write the correct letter in boxes 32–35 on your answer sheet.

32 In ancient times, people thought that dreams

A sent messages to the gods.
B helped resolve conflict.
C were a sign of physical illness.
D predicted future events.

33 According to the passage, which of the following happens during REM sleep?

A People rarely dream.
B People's dreams become confused.
C The temperature of the brain increases.
D The brain behaves differently than when you are awake.

34 What explanation is suggested in paragraph E for lack of a clear narrative in dreams?

A Some dreams occur in non-REM sleep.
B Some dreams are generated in different areas of the brain.
C The part of the brain in control of reasoning is less involved.
D The part of the brain responsible for feelings is more involved.

35 According to the passage, which area of the brain helps people find solutions to difficult situations through their dreams?

A the anterior cingulate cortex
B the pons
C the limbic system
D the prefrontal cortex

Questions 36–40

Look at the following statements (Questions 36–40) and the list of people below.

Match each statement with the correct person or people, ***A–G****.*

Write the correct letter, ***A–G****, in boxes 36–40 on your answer sheet.*

36 Technology shows there is a link between dreams and the areas of the brain that deal with feelings.

37 Dreams are meaningless pictures created by the brain.

38 Dreaming is a method of calming strong feelings.

39 Our dreams can show us unexpected things about ourselves.

40 Dreams may be a result of maintaining an essential body function.

List of People

A Jerry Siegel
B Allan Hobson and Robert McCarley
C Mark Solms
D Eric Nofzinger
E Deirdre Barrett
F Clara Hill
G Rosalind Cartwright

27–31 段落匹配

题号	答案	精确定位句（原文）	详细解释
27	**F**	“she describes how painters like **Jasper Johns and Salvador Dali found inspiration in their dreams**.”（第F段）	题干：梦对艺术家作品的重要性。原文直接举两位画家从梦中“获得灵感”，等同于说明梦对艺术创作具有重要作用，故选F。
28	**C**	“**That raised questions about dream research. If dreams are insignificant night-time images created by the brain, what is the point of studying them?**”（第C段）	activation–synthesis 把梦视为随机图像，于是“这就对梦的研究提出了疑问”——对应“对梦的研究是否有用的担忧/顾虑”，故选C。
29	**B**	“it is universal – **at least in mammals and even birds**… ‘There’s **no good evidence that any cold-blooded animal has REM sleep**.’ ”（第B段）	给出具有REM的“生物类型”：哺乳动物与鸟类，并指出冷血动物无证据有REM，正面回答“哪些生物有REM”，故选B。
30	**G**	“ ‘good dreamers’… **are less likely to remain depressed**… She thinks that **dreaming helps diffuse powerful emotions**. ‘**Dreaming is a mental-health activity**.’ ”（第G段）	明确将梦与“抑郁不易持续/情绪疏散/心理健康活动”联系起来，即“研究结果把梦与心理健康相联系”，故选G。
31	**D**	“**fMRI** and **PET** … **might actually lend new support to Freud’s ideas** because the parts of the brain that are most active during dreaming **control emotion**.”（第D段）	现代成像技术（fMRI/PET）发现做梦时情绪相关区最活跃，从而“为弗洛伊德的观点提供支持”，对应“现代研究工具强化了弗洛伊德理论”，故选D。

32–35 单项选择

题号	答案	精确定位句（原文）	详细解释（含排除）
32	**D**	“Thousands of years ago, **dreams were seen as messages from the gods**, and in many cultures, they are **still considered prophetic, foretelling things to come**.”（第A段）	题干谈“古代的看法”。虽然首句说“来自神的讯息（from the gods）”，但下半句用 **still** 明确这种观念延续至今，且定义为“具预言性/预示将来（prophetic, foretelling things to come）”，与 **D. predicted future events** 同义最精准。**排除**：A写成“sent messages **to** the gods（把信息送给神）”与原文 **from the gods** 方向相反；B、C原文未述。
33	**C**	“**REM sleep heats up the brain** and non-REM cools it off, Siegel says.”（第B段）	直接对应“REM期间脑温升高”。**排除**：A“很少做梦”相反（REM中多梦且生动）；B“梦变混乱”未见直接表述；D“与清醒不同”不符，因为前文EEG显示REM时脑活动“**resembled** awake”。
34	**C**	“**Much less active during REM sleep is the prefrontal cortex, which is associated with logical thinking. That could explain why dreams in REM sleep often lack a coherent story line.**”（第E段）	叙事不连贯的解释=**前额叶（逻辑推理）在REM中活性较低**。**排除**：A“非REM也会做梦”是事实补充，非因果解释；B“不同脑区生成”文中未以此解释“叙事不清”；D“情绪区更活跃”虽真但文中将“叙事不连贯”的解释明确归因于前额叶活性低。
35	**A**	“Another active part… is the **anterior cingulate cortex**, which **detects differences or inconsistencies**. **Eric Nofzinger… thinks that could be why people often solve tricky problems** in their dreams.”（第E段）	题干问“帮助在梦中解决难题的脑区”。原文点名**前扣带皮层（anterior cingulate cortex）**并给出功能与因果推断，故选A。**排除**：B脑桥是信号发生部位（第C段），非解题；C边缘系统主情绪（第D段）；D前额叶在REM里活性低（第E段）。

36–40 人物匹配

题号	答案	精确定位句（原文）	详细解释
36	**C（Mark Solms）**	“**fMRI** and **PET** … **lend new support to Freud’s ideas** because the parts… most active during dreaming **control emotion**.”（第D段）	技术显示做梦与情绪脑区相关 → 与题干“技术显示梦与情感区相关”吻合，归于Solms。
37	**B（Allan Hobson & Robert McCarley）**	“Hobson… believes that **dreams are essentially random**… ‘**activation-synthesis**’… **insignificant night-time images**…”（第C段）	“梦是大脑制造的无意义图像”正是其理论核心，故选B。
38	**G（Rosalind Cartwright）**	“ ‘good dreamers’… less likely to remain depressed… **dreaming helps diffuse powerful emotions**. ‘**Dreaming is a mental-health activity**.’ ”（第G段）	直接表述“做梦有助于疏散强烈情绪”，与题干一致，故选G。
39	**F（Clara Hill）**	“Dreams are a ‘**back door**’ into a patient’s thinking. ‘**Dreams reveal stuff about you that you didn’t know was there**.’ ”（第G段）	题干“梦能让我们看到意想不到的自我内容”。与Hill的直引完全对应（题面人名拼作 Ciara，应为 **Clara**）。
40	**A（Jerry Siegel）**	“**REM sleep is filling a basic physiological function** and **dreams are… a by-product** of this.”（第B段）	题干“梦可能是维持一种基本生理功能的结果”。Siegel认为REM承担基本生理功能，而梦是其副产物，故选A。