READING PASSAGE 3

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

Music soothes and awes – and may help us heal

Tapping into the brain's ability to process music, researchers are using songs and sounds in novel ways

Dan Ellsey, 33, was sitting in his wheelchair, his virtually useless arms and weak torso strapped to the chair for safety. As we were introduced, he arched his back, grinned broadly and aimed the power of his dark brown eyes at me, as if eye contact were his only means of transcending the prison of his body.

But it isn't. In the last few years, Ellsey, who was born with cerebral palsy, has discovered another, almost miraculous way of expressing himself: composing music with a special computerized system called Hyperscore. For Ellsey, as for most human beings, music has almost inexplicable power. It can rouse armies to battle, soothe babies to sleep, communicate peaks of joy and depths of sorrow that mere words cannot.

Why evolution would have endowed our brains with the neural machinery to make music is a mystery. 'It's unclear why humans are so uniquely sensitive to music. Certainly, music shares many features with spoken language, and our brains are particularly developed to process the rapid tones and segments of sound that are common to both,' said neurologist and author Dr Oliver Sacks, whose latest book is *Musicophilia: Tales of Music and the Brain*. 'Some researchers,' he added in an e-mail interview, 'think that in primitive cultures, music and speech were not distinct. Other researchers debate which came first in evolution, speech or song.' What is clear is that the brain is abundantly wired to process music.

Scientists at the Montreal Neurological Institute and Hospital, for instance, have found dramatic evidence on brain scans that the chills, or visceral feelings of awe, that people report when listening to their favorite music are real. Reactions to music appear to vary greatly. Music that a person likes, but not music that is disliked, activates the higher thinking centers in the brain's cortex and, perhaps more importantly, the 'ancient circuitry, the motivation and reward system,' according to experimental psychologist Robert Zatorre, a member of the Montreal team. This primeval part of the brain also governs basic drives such as hunger, thirst and sex, suggesting that the brain may consider music on a par with them.

Music has the power not just to awe but also to heal. If a person has a stroke on the left side of the brain, where the speech centers in most people are, that ‘wipes out a major part of communication,’ said Dr Gottfried Schlaug, chief of the Cerebrovascular Disorders Division and Stroke Recovery Laboratory at Beth Israel Deaconess Medical Center. But if the right side, where a lot of music is processed, is intact, some stroke patients can use melodic intonation therapy, which involves singing using two tones relatively close in pitch, to communicate. Schlaug’s research suggests that with intensive therapy, some patients can even move from this two-tone singing back to actual speech.

Stroke patients with gait problems also profit from music therapy. At the Center for Biomedical Research in Music at Colorado State University in Fort Collins, director Michael Thaut and his team have shown that people who are partially paralyzed on one side of the body can be retrained to walk faster and in a more coordinated way if they practice walking rhythmically, cued by music or a metronome. Combining rhythmic training with physical therapy also helps stroke patients recover gait faster. ‘Music helps us organize our movement,’ said Kathleen Howland, a music therapist who teaches at Lesley University in Cambridge in the USA. In fact, researchers have found that auditory signals are more powerful than visual signals in coordinating movement in healthy people.

Patients undergoing colonoscopy seem to feel less pain and need fewer sedative drugs if they listen to music during the procedure, according to several studies. But not all studies have been so clear-cut. A 2007 review by the Cochrane Collaboration, a nonprofit, international organization that evaluates medical research, pooled data from 51 pain studies and concluded that, although listening to music can reduce the intensity of pain and the need for narcotic drugs, the benefit, overall, was small.

A number of studies, however, show that music therapy can reduce pain, such as a 2001 study on burn patients, whose burns must be frequently scraped to reduce dead tissue. Music therapy may improve mental state and functioning in people with schizophrenia, and communication in children with autistic spectrum disorders, according to Cochrane reviews. Babies, as any parent knows, clearly respond to music. Premature infants who listen to lullabies learn to suck better and gain more weight than those who don’t get music therapy. Deforia Lane, director of music therapy at the University Hospitals Ireland Cancer Center in Cleveland, has found an improvement in immune response among hospitalized children who played, sang and created music, compared with children who did not get music therapy. Indeed, the list of potential benefits from music therapy seems long. And for people such as Ellsey, the benefits can be nothing short of liberating.

Questions 27–32

Do the following statements agree with the views of the writer in Reading Passage 3?

In boxes 27–32 on your answer sheet, write

YES	*if the statement agrees with the views of the writer*
NO	*if the statement contradicts the views of the writer*
NOT GIVEN	*if it is impossible to say what the writer thinks about this*

27 Dan Ellsey has been able to communicate through music since he was very young.

28 Armies respond to music that is loud and rhythmic.

29 Researchers have determined why people react so emotionally to music.

30 Both music and speech are composed of sound segments.

31 It is clear that song developed more quickly than speech.

32 Emotional reactions to music have been scientifically demonstrated.

Questions 33–35

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

Write the correct letter in boxes 33–35 on your answer sheet.

33 According to the article, music stimulates higher brain activity when it

A provokes hunger.
B requires thought.
C is soothing.
D is pleasing.

34 According to Dr Schlaug's research, some stroke patients may regain speech if

A they practise making sounds that are close together.
B they reactivate the left side of the brain.
C they receive music therapy daily.
D they listen to tunes in groups.

35 According to the Cochrane Collaboration review, some research into the link between music and pain relief suggests

A the value of music is underestimated.
B the value of music may be limited.
C more studies are needed in these areas.
D patients welcome this research.

Questions 36–40

*Complete each sentence with the correct ending, **A–H**, below.*

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

36 Burn victims who receive music therapy

37 People with schizophrenia who receive music therapy

38 Autistic children who receive music therapy

39 Premature babies who receive music therapy

40 Hospitalised children who receive music therapy

A	rely less on drugs.
B	get heavier.
C	exhibit improved social interaction.
D	experience psychological benefits.
E	sleep more soundly.
F	suffer less discomfort.
G	accept their situation more easily.
H	have stronger resistance to disease.

判断题（27–32）

题号	答案	题干翻译	精确定位句（段落/原文摘句）→ 中文	详细解析（同义改写 & 错项排除）
27	**NO**	丹·埃尔西从很小就能通过音乐进行交流。	**第2段**："**In the last few years, Ellsey … has discovered … expressing himself: composing music with … Hyperscore.**" → "**在过去的几年里**，埃尔西发现了另一种表达自我的方式：用 Hyperscore 作曲。"	题干说"**自幼**就能通过音乐交流"，原文明确为"**近几年才发现**"。时间对立，故 NO。
28	**NOT GIVEN**	军队会对**响亮且有节奏**的音乐作出反应。	**第2段**："**It can rouse armies to battle …**" → "音乐能**鼓舞军队出征**……"	原文只说"音乐能激励军队"，未限定"**响亮且有节奏**"。题干加入了原文没有的信息（音量与节奏属性），故 **NG**。
29	**NO**	研究者已经弄清人们为何对音乐情绪反应强烈。	**第3段**："**Why … is a mystery. 'It's unclear why humans are so uniquely sensitive to music.'**" → "为什么……是个谜。'**尚不清楚**为什么人类对音乐如此敏感。'"	原文明确"不清楚/是谜"，与题干"已弄清"相反，故 **NO**。
30	**YES**	音乐和语言都由声音的片段构成。	**第3段**："**music shares many features with spoken language … our brains … process the rapid tones and segments of sound that are common to both.**" → "音乐与口语**共享许多特征**……我们的大脑能处理**两者共有的**快速音调与**声音片段**。"	题干为原句同义压缩（segments of sound = 声音片段），且明确"两者共有"，故 **YES**。
31	**NO**	可以确定歌唱比语言进化得更快。	**第3段**："**Other researchers debate which came first in evolution, speech or song.**" → "还有研究者在**争论**进化中**是语言先还是歌唱先**。"	原文说"仍在争论、不确定"，题干断言"可以确定"，与原文相反，故 **NO**。
32	**YES**	对音乐的情绪反应已被科学证明。	**第4段**："**have found dramatic evidence on brain scans that the chills … are real.**" → "脑成像发现**强有力证据**：人们听喜爱音乐时的'战栗/敬畏'**确实存在**。"	"scientifically demonstrated" ↔ "brain scans found evidence（脑成像证据）"，属同义表达，故 **YES**。

单选题（33–35）

题号	答案	题干翻译	精确定位句（段落/原文摘句）→ 中文	详细解析（同义改写 & 错项排除）
33	**D**	根据文章，音乐在何种情况下会激活更高水平的大脑活动?	**第4段**："**Music that a person likes, but not music that is disliked, activates the higher thinking centers in the brain's cortex …**" → "**人们喜爱的**音乐（而**非不喜欢的**）会**激活**大脑皮层的**高阶思维中枢**……"	**D is pleasing** = "喜爱的/令人愉悦的"。A "引发饥饿" 无据；B "需要思考" 文中未言因果；C "令人放松/舒缓" 只对应情绪，不等于 "激活高阶皮层"。
34	**A**	根据 Schlaug 的研究，部分中风病人如何可能恢复言语?	**第5段**："**melodic intonation therapy, which involves singing using two tones relatively close in pitch … with intensive therapy, some patients can move … back to actual speech.**" → "**旋律语调治疗**涉及**用彼此音高很接近的两个音**来唱……强化治疗下，部分病人可从这种**两音唱**过渡回**真实言语**。"	**A they practise making sounds that are close together** 与 "two tones relatively close in pitch" 精准对应。B "重新激活左脑" 未提；C "天天接受治疗" 无频率信息；D "集体听曲" 未提。
35	**B**	根据 Cochrane 综述，关于音乐与镇痛关系的部分研究表明什么?	**第7段**："**although listening to music can reduce the intensity of pain and the need for narcotic drugs, the benefit, overall, was small.**" → "尽管听音乐**能减轻**疼痛强度与阿片类药物需求，**总体收益较小**。"	"总体较小" = **价值可能有限** → 选 **B**。A "被低估" 无据；C "需要更多研究" 文中此处未作为结论；D "病人欢迎" 未提。

配对题（36–40）

题号（对象）	正确选项	题干翻译	精确定位句（段落/原文摘句）→ 中文	解析（同义改写 & 错项排除）
36（烧伤病人）	**F**	接受音乐治疗的烧伤病人会……	**第 8 段：“A number of studies … show that music therapy can reduce pain, such as a 2001 study on burn patients, whose burns must be frequently scraped …” → “多项研究表明音乐治疗可减痛，如对烧伤患者的研究……”**	“reduce pain”=**减轻不适/痛苦 → F suffer less discomfort**。A “更少用药” 是结肠镜情境；E “睡得更香” 未提；其余与烧伤不符。
37（精神分裂症患者）	**D**	接受音乐治疗的精神分裂症患者会……	**第 8 段：“may improve mental state and functioning in people with schizophrenia” → “可能改善精神分裂症患者的心理状态与功能。”**	“improve mental state”=**心理/精神收益 → D experience psychological benefits**。
38（自闭谱系儿童）	**C**	接受音乐治疗的自闭症儿童会……	**第 8 段：“and communication in children with autistic spectrum disorders” → “并改善自闭谱系儿童的沟通。”**	沟通能力↑ ↔ **社交互动改善 → C**。
39（早产儿）	**B**	接受音乐治疗的早产儿会……	**第 8 段：“Premature infants who listen to lullabies learn to suck better and gain more weight** than those who don’t …” → “听摇篮曲的**早产儿会体重增长更多。**”	“gain more weight”=**变重 → B get heavier**。
40（住院儿童）	**H**	接受音乐治疗的住院儿童会……	**第 8 段：“found an improvement in immune response among hospitalized children who played, sang and created music …” → “住院儿童通过演奏/歌唱/创作音乐，其免疫反应有所改善。”**	免疫反应↑ ↔ **对疾病抵抗力更强 → H**。A/E/G 在全文另处或未提，非本对象。