

<b>ĐIỂM</b>		<b>Cán bộ chấm thi 1</b>	<b>Số phách</b> (do CT Hội đồng chấm thi ghi)
<b>Bảng số</b>	<b>Bảng chữ</b>	Họ và tên: ..... Chữ ký: .....	
		<b>Cán bộ chấm thi 2</b>	
		Họ và tên: ..... Chữ ký: .....	

**SECTION I. LISTENING (5.0 POINTS)**

**INTRODUCTION:**

- There are 4 parts of the section.
- You'll hear each part twice.
- There is a prompting sound at the beginning and end of each part.

**Part 1. Listen to a speech about body posturing caused by brain damage and decide whether each of the following statements are True (T), False (F), or Not Given (NG):**

1. In decorticate posturing, the upper extremities exhibit involuntary flexion towards the thoracic region, while the lower limbs manifest extension.
2. The pyramidal tract's primary function is to facilitate motor control of the femoro-crural region.
3. Decorticate posturing resulting from corticospinal tract damage invariably leads to permanent motor deficits in your superior appendicular skeleton.
4. The etiology of brainstem injuries is predominantly correlated with cranial trauma involving the prefrontal cortex or the parietal lobe.
5. Decerebrate posturing has an equal prognosis compared to decorticate posturing.

**Your answers:**

1. ....	2. ....	3. ....	4. ....	5. ....
---------	---------	---------	---------	---------

**Part 2: From questions 6 to 10, listen carefully and fill in the gaps with *NO MORE THAN FOUR WORDS* for each number:**

6. What adverse consequences has Iran borne as a byproduct of a critical mandate promulgated by the emergent crown prince of Saudi Arabia?
7. Notwithstanding the potential presence of extrinsic motivators, what fundamental impetus precipitated the prince's decision to extinguish moral turpitude?
8. Which core sociocultural construct has Mohammed Bin Salman deliberately subverted to eliminate any barriers to his reformative aspirations?
9. In what terms does the speaker portray the present condition of the religion, wherein its dogmatic interpretation by conservative Islamic clerics is wielded as a quid pro quo?
10. What nomenclature does the speaker attribute to the symbiotic rapport between the House of Saud and the traditionalist Islamic clerics?

**Your answers:**

6. ....
7. ....
8. ....
9. ....
10. ....

**Part 3. For questions 11-15, You will hear an interview with Maria Stefanovich co-founder of a creativity group which organizes workshops for executives and choose the answer A, B, C or D which best completes each gap.**

11. Commercial corporations venerate mask-fabrication workshops owing to \_\_\_\_\_
  - A. Individuals' intolerance for disagreeable expressions within the occupational sphere.
  - B. The tendency of disgruntled employees towards eschewing attendance at work
  - C. Their realization of the esoteric perceptions harbored by their workforce.
  - D. The subtle transformation of their workforce's behavioral dispositions.
12. Enterprises are increasingly eschewing quotidian practices in favor of avant-garde conferences, cognizant that \_\_\_\_\_
  - A. Inefficacious personnel constitute a pecuniary burden.
  - B. Conventional vocational milieus are fraught with inexorable strictures.
  - C. Workforce truancy exhibits a disconcerting recrudescence.
  - D. Employees' assiduous exertions belie a dearth of occupational delectation.
13. The workforce at the enterprise 'Play' \_\_\_\_\_
  - A. Engages in a recurrent realignment of roles to alleviate monotony and sustain fervor.
  - B. Bears bespoke insignia denoting their professional designations.
  - C. Embellish themselves in garb evocative of characters from graphic novels.
  - D. Refrain from harboring orthodox perceptions of their profession.
14. Corporations exhibiting an overabundance of alignment with innovative discourses express immense astonishment since \_\_\_\_\_
  - A. They would much rather attend a lot of other fascinating programs.
  - B. Their personnel ought to manifest a nuanced understanding of subtle witticisms.
  - C. They typically possess a workforce initially endowed with creative abilities.
  - D. Their employees are frequently required to give presentations.
15. Maria mentions the conventional enterprises that have held symposiums with a view to \_\_\_\_\_
  - A. Accentuating the heterogeneity of avenues among the firms.
  - B. Illustrating their selectively limited roster of clients.
  - C. Understating the gravitas of these esteemed companies.
  - D. Highlighting the successes of the clients her company has supported.

**Your answers:**

11. ....	12. ....	13. ....	14. ....	15. ....
----------	----------	----------	----------	----------

**Part 4:** Listen to a talk about the evolutionary features on the human body and fill in the gap in each of the following sentences with **NO MORE THAN THREE WORDS** for each number:

Certain elements of human anatomy only gain significance when scrutinized through the paradigm of **16.**\_\_\_\_\_ under natural selection. Slightly elevate your hand after repositioning your thumbs **17.**\_\_\_\_\_ while keeping your arms fully extended on a flat surface. Through this technique, you may observe the **18.**\_\_\_\_\_ on your forearms, should you possess one, which bears a connection to **19.**\_\_\_\_\_. The aforementioned tendon is demonstrably more pronounced in **20.**\_\_\_\_\_, exhibiting greater elongation. Relative to human limitations, the unbounded ear mobility of our mammalian counterparts enables **21.**\_\_\_\_\_ to harness distinct advantages. Enhanced insulation capacity can be generated through the hair-raising reflex in humans' **22.**\_\_\_\_\_. Located at the spine's distal end, the sequence of **23.**\_\_\_\_\_ exhibits inter-individual variation. The coccyx serves as an anchor point for **24.**\_\_\_\_\_. The probability of a(n) **25.**\_\_\_\_\_ materializing through genetic mutation is exceedingly minimal.

**Your answers:**

<b>16.</b> .....
<b>17.</b> .....
<b>18.</b> .....
<b>19.</b> .....
<b>20.</b> .....

<b>21.</b> .....
<b>22.</b> .....
<b>23.</b> .....
<b>24.</b> .....
<b>25.</b> .....

**SECTION II. LEXICO-GRAMMAR (3 POINTS)**

**Part 1 :** For question 26-40, choose the correct answer **A, B, C or D** to each of the following questions.

- 26.** His plane was tracked, his press conference poured over and his \_\_\_\_\_ spotted.  
**A.** doppelganger      **B.** crepehanger      **C.** voetganger      **D.** twanger
- 27.** Had word of Hanson's interest leaked to the market, the stockbroker's \_\_\_\_\_ could almost have bankrupted the firm.  
**A.** chutzpah      **B.** chalaza      **C.** challah      **D.** chalupa
- 28.** Despite his finely tailored appearance, the cunning \_\_\_\_\_ deceived the entire court, convincing them of his noble lineage while secretly plotting to abscond with the royal treasury.  
**A.** curmudgeon      **B.** chirurgion      **C.** habergeon      **D.** clapperdudgeon
- 29.** It must be assured that the \_\_\_\_\_ of Mr. Vance was an exacting procedure, with diligent attention to detail.  
**A.** bertillonage      **B.** persiflage      **C.** enfleurance      **D.** ossifrage
- 30.** Scientists have discovered that the solar body is pulsating, and they can detect this "global oscillation" using the new techniques of " \_\_\_\_\_," which are similar to those used in terrestrial seismology.  
**A.** onomasiology      **B.** kremlinology      **C.** lepidopterology      **D.** helioseismology
- 31.** Whitley, a willowy former City banker, peppered his talk with literary \_\_\_\_\_ and some distinctly fast verse.  
**A.** bodo - garo      **B.** bon mot      **C.** bon ton      **D.** bourgeois
- 32.** Readers did not exactly side with the Patriot; they sent in heaps of hate mail for what they felt was \_\_\_\_\_.

- A.** fish for clicks      **B.** hoax bait      **C.** yellow journalism      **D.** fabricated news
33. After years of unexplained pain, she was finally diagnosed with \_\_\_\_\_, which explained the severe cramps and discomfort she experienced during her menstrual cycles.  
**A.** endocytosis      **B.** enterostenosis      **C.** endometriosis      **D.** enteroclysis
34. Patients with advanced achalasia may be better managed with primary \_\_\_\_\_ resection.  
**A.** oesophageal      **B.** menorrhagia      **C.** euthanasia      **D.** anaemia
35. A fun crafty thing to do would be to \_\_\_\_\_ some of the pages with rough sketches and give them to your children to trace, or try drawing free hand.  
**A.** xenon      **B.** xebec      **C.** xerarch      **D.** xerox
36. For the pink-tinged makeup look that walked that perfect line between sweet and \_\_\_\_\_, Jenn said the theme all started with the dress.  
**A.** pantherine      **B.** tambourine      **C.** saccharine      **D.** anserine
37. Male \_\_\_\_\_ are actually three times as likely as male chimps to engage in hitting, biting, and other aggressive interactions, researchers reported in Current Biology last week.  
**A.** bonanzas      **B.** bonacis      **C.** bonobos      **D.** bonitos
38. The \_\_\_\_\_ of the wind through the ancient pines created a haunting melody that echoed through the silent forest.  
**A.** humerus      **B.** susurrus      **C.** cumulus      **D.** tumulus
39. Perioperative outcome such as time to liquid intake, time to \_\_\_\_\_, time to canalization and hospital stay after surgery.  
**A.** exaltation      **B.** expiation      **C.** exaration      **D.** exsufflation
40. That day he went off like a \_\_\_\_\_ cat and, understandably, his energy ran out in the testing conditions.  
**A.** Cheshire      **B.** fraidy      **C.** barber's      **D.** scalded
41. He quickly learned to attend to the demanding appetites of the \_\_\_\_\_, making certain that the choicest meats and produce was delivered to them.  
**A.** appanages      **B.** apparatchiks      **C.** apparatuses      **D.** appassionatos
42. She had done the necromancy with a \_\_\_\_\_ of debonair detachment until the Army called out her husband for the second time.  
**A.** modicum      **B.** morocco      **C.** moccasin      **D.** modular
43. When watercolour is combined with \_\_\_\_\_, or with the new water-soluble drawing media, the results can be quite striking.  
**A.** scaramouche      **B.** huisache      **C.** gouache      **D.** panache
44. The author \_\_\_\_\_ in the preface, diluting the impact of the argument with verbose commentary, which ultimately undermined the effectiveness of the main thesis.  
**A.** raffled off      **B.** waffled on      **C.** snuffled in      **D.** muffled up
45. Amidst the scholarly debate and spirited discussions, there was an undercurrent in his wistful gaze that suggested a \_\_\_\_\_ of melancholy, barely perceptible but unmistakable to those who looked closely.  
**A.** hinge      **B.** winge      **C.** binge      **D.** tinge

**Your answers:**

26. ....	27. ....	28. ....	29. ....	30. ....
31. ....	32. ....	33. ....	34. ....	35. ....
36. ....	37. ....	38. ....	39. ....	40. ....
41. ....	42. ....	43. ....	44. ....	45. ....

**Part 2: Complete the following sentences with the correct form of the words in brackets.**

- 46. Both writers are intent on \_\_\_\_\_ the American West, retaining the best of the frontier spirit—the self-reliance, the stoicism, the taciturn wit—while conjuring its worst aspects. (MYTH)
- 47. Her research was in \_\_\_\_\_, which is the influence of light on plant growth. (MORPHO)
- 48. The experiment is part of the growing field of \_\_\_\_\_, or the sourcing of animal organs to try to solve the human organ supply crisis. (PLANT)
- 49. The art critic's analysis of the painting highlighted its \_\_\_\_\_ elements, such as the bold colors and distorted perspective. (IMPRESS)
- 50. In the dairy industry, \_\_\_\_\_ bacteria play a key role in the production of yogurt and cheese by converting sugars into lactic acid. (FERMENT)

**Your answers:**

46. ....
47. ....
48. ....

49. ....
50. ....

**Part 3: Error correction**

The passage below contains 5 mistakes. Underline the mistakes and correct them in the space provided in the column on the right. (0) has been done as an example.

The esophagus is a part of the upper gastrointestinal (GI) tract with no known digestive, absorb, or metabolic function, acting simply as a link for transporting food between the oral cavity and the stomach. Consistent with its basic role in the food intake process, it displays a relatively simple tissue architecture. The line of the adult mouse esophagus comprises a uniform layer of squamous epithelial cells residing above a highly proliferative basal layer. This epithelium is keratinized, providing an additional layer of protection against an abrasive diet. To facilitate swallowing and food transportation to the stomach, the epithelial layer is surrounded by a double-layered external muscle (*muscularis externa*). This external muscle comprises outer (*longitudinal*) and inner (circular) layers of smooth muscularis cells, infiltrated during esophageal development. Activation of radial muscle waves in this layer propels ingested food towards the stomach.

Esophageal development initiates with the separation of the respiratory buds from the foregut tube at embryo day 9.5 (E9.5), with this division being completed by E11.5 in mice. This process requires delicate coordination between both endodermal and mesenchymal tissues. The esophagus initially comprises a single-layered cuboidal epithelium surrounded by a smooth muscle layer. After separating from the airway, both tissues gain additional cell layers, and the epithelium undergoes a shift in marking expression as it transitions from a cytokeratin 8 (Krt8) labeled cuboidal layer to a cytokeratin 14 (Krt14) expressing squamous layer. Although the existence of cellular heterogeneity both the developing mouse esophageal epithelium and muscle has been described, it is currently not clear whether any of the subsets represents a pool of dedicated

0. absorb → absorptive

51. \_\_\_\_\_

52. \_\_\_\_\_

53. \_\_\_\_\_

54. \_\_\_\_\_

55. \_\_\_\_\_

stem/progenitor cells and what their role in the process of organ development and maintenance might be.

### SECTION III. READING (6.0 POINTS)

**Part 1. For questions 56-65. (1.0 point - 0.1/ each)**

**Read the passages below and decide which answer A, B, C or D best fits each gap. Write your answers in the corresponding numbered boxes provided.**

**In ‘The Big Short,’ Economic Collapse for Fun and Profit**

A true crime story and a (56) \_\_\_\_\_ comedy, a heist movie and a scalding (57) \_\_\_\_\_, “The Big Short” will affirm your deepest cynicism about Wall Street while simultaneously restoring your faith in Hollywood.

It wants not only to explain the financial crisis of 2008 but also to make the dry, complex abstractions of high finance exciting and fun. Celebrity cameos are turned into miniseminars on the finer points of credit-default (58) \_\_\_\_\_ and collateralized debt obligations. The performances, the script and the camera itself seem to be running on a stiff, mind-bending cocktail of Red Bull, Adderall and (59) \_\_\_\_\_.

Rather than (60) \_\_\_\_\_ familiar ground, “The Big Short” achieves a fresh and brilliant synthesis of knowing insiderism and populist incitement. Also, linking the (61) \_\_\_\_\_ iconoclasts, and serving as our guide to the apocalypse unfolding around them, is Jared Vennett, played by Ryan Gosling. To help moviegoers understand, the director Adam McKay took a lively (62) \_\_\_\_\_ approach. From time to time, Vennett will cast his (63) \_\_\_\_\_ blues toward the camera to tell us that something didn’t really happen in quite the way it’s being. His winking wit and (64) \_\_\_\_\_ energy allow us to think that “The Big Short” is going to be one of those amoral rich-guy movies, complete with (65) \_\_\_\_\_ of champagne and visits to strip clubs.

- |                             |                       |                     |                     |
|-----------------------------|-----------------------|---------------------|---------------------|
| 56. <b>A.</b> bergorrah     | <b>B.</b> dingbat     | <b>C.</b> madcap    | <b>D.</b> hark      |
| 57. <b>A.</b> mimesis       | <b>B.</b> riff        | <b>C.</b> trivium   | <b>D.</b> polemic   |
| 58. <b>A.</b> bonds         | <b>B.</b> swaps       | <b>C.</b> funds     | <b>D.</b> stocks    |
| 59. <b>A.</b> buprenorphine | <b>B.</b> vitrine     | <b>C.</b> mescaline | <b>D.</b> quinine   |
| 60. <b>A.</b> rehash        | <b>B.</b> refract     | <b>C.</b> reinter   | <b>D.</b> reify     |
| 61. <b>A.</b> myradic       | <b>B.</b> xylem       | <b>C.</b> floozey   | <b>D.</b> motley    |
| 62. <b>A.</b> kitchen-sink  | <b>B.</b> garden-plot | <b>C.</b> attic-box | <b>D.</b> home-fire |
| 63. <b>A.</b> bud           | <b>B.</b> bob         | <b>C.</b> baby      | <b>D.</b> baddy     |
| 64. <b>A.</b> pshaw         | <b>B.</b> antic       | <b>C.</b> crikey    | <b>D.</b> fie       |
| 65. <b>A.</b> weirs         | <b>B.</b> geysers     | <b>C.</b> atolls    | <b>D.</b> straths   |

**Your answers:**

<b>56.</b> .....	<b>57.</b> .....	<b>58.</b> .....	<b>59.</b> .....	<b>60.</b> .....
<b>61.</b> .....	<b>62.</b> .....	<b>63.</b> .....	<b>64.</b> .....	<b>65.</b> .....

**Part 2. For questions 66-75 (1.0 point - 0.1/ each), fill each of the following numbered blanks with ONE suitable word and write your answers in the corresponding numbered boxes provided.**

The alarm blared, jolting me (66)\_\_\_\_\_ with a start. As I stumbled out of bed, I couldn't help but groan at the thought of another hectic day in the bustling metropolis. I dressed (67) \_\_\_\_\_ some clothes, grabbed a quick breakfast, and was quickly out the (68)\_\_\_\_\_, weaving through the throngs of commuters.

The subway was packed, with people crammed together like sardines. I managed to find a sliver of (69)\_\_\_\_\_ and clung to the handrail, trying to avoid eye contact with the strangers around me. As I rode, I couldn't shake the (70)\_\_\_\_\_ that I was just a cog in a massive machine, lost in the anonymity of the city.

Once I reached my office, I (71)\_\_\_\_\_ headfirst into my work, trying to catch up on the emails that had piled up overnight. It was a constant battle against the clock, as deadlines loomed and tasks seemed to multiply.

By lunchtime, I was feeling frazzled and in dire need of a break. I decided to grab a (72)\_\_\_\_\_ to eat at the nearby (73)\_\_\_\_\_ court. The place was a cacophony of noise, with people chattering and laughing as they devoured their meals. I settled (74) \_\_\_\_\_ a sandwich and a salad, a deserving reward after much jostling.

After lunch, I returned to my desk and continued to grind away. The hours seemed to drag on, and by late afternoon, I was feeling exhausted and ready to call (75) \_\_\_\_\_ on it. As I packed up my belongings, I couldn't help but think about the long commute that awaited me.

**Your answers:**

66. ....
67. ....
68. ....
69. ....
70. ....

71. ....
72. ....
73. ....
74. ....
75. ....

**Part 3. For questions 76-85(1.0 point - 0.1/ each), read an extract from a journal and choose the answer A, B, C or D that fits best according to the text. Write your answers in the corresponding numbered boxes provided.**

No man likes to acknowledge that he has made a mistake in the choice of his profession, and every man, worthy of the name, will row long against wind and tide before he allows himself to cry out, "I am baffled!" and submits to be floated passively back to land. From the first week of my residence in X— I felt my occupation irksome. The thing itself—the work of copying and translating business-letters— was a dry and tedious task enough, but had that been all, I should long have borne with the nuisance; I am not of an impatient nature, and influenced by the double desire of getting my living and justifying to myself and others the resolution I had taken to become a tradesman, I should have endured in silence the rust and cramp of my best faculties; I should not have whispered, even inwardly, that I longed for liberty; I should have pent in every sigh by which my heart might have ventured to intimate its distress under the closeness, smoke, monotony, and joyless tumult of Bigben Close, and its panting desire for freer and fresher scenes; I should have set up **the image of Duty, the fetish of Perseverance**, in my small bedroom at Mrs. King's lodgings, and they two should have been my household gods, from which my darling, my cherished-in-secret, Imagination, the tender and the mighty, should never, either by softness or strength, have severed me. But this was not all; the antipathy which had sprung up between myself and my employer striking deeper root and spreading denser



**shade** daily, excluded me from every glimpse of the sunshine of life; and I began to feel like a plant growing in humid **darkness** out of the slimy walls of a well.

Antipathy is the only word which can express the feeling Edward Crimsworth had for me—a **feeling, in a great measure, involuntary, and which was liable to be excited by every, the most trifling movement, look, or word of mine**. My southern accent annoyed him; the degree of education evinced in my language irritated him; my punctuality, industry, and accuracy, fixed his dislike, and gave it the high **flavour** and poignant relish of envy; he feared that I too should one day make a successful tradesman. Had I been in anything inferior to him, he would not have hated me so thoroughly, but I knew all that he knew, and, what was worse, he suspected that I kept the padlock of silence on mental wealth in which he was no sharer. If he could have once placed me in a ridiculous or mortifying position, he would have forgiven me much, but I was guarded by three faculties— Caution, Tact, Observation; and prowling and prying as was Edward’s malignity, it could never baffle the lynx-eyes of these, my natural sentinels. Day by day did his malice watch my tact, hoping it would sleep, and prepared to steal snake-like on its slumber; but tact, if it be genuine, never sleeps.

I had received my first quarter’s wages, and was returning to my lodgings, possessed heart and soul with the pleasant feeling that the master who had paid me grudged every penny of that hard-earned pittance — (I had long ceased to regard Mr. Crimsworth as my brother—he was a hard, grinding master; he wished to be an inexorable tyrant: that was all). Thoughts, not varied but strong, occupied my mind; two voices spoke within me; again and again they uttered the same monotonous phrases. One said: “William, your life is intolerable.” The other: “What can you do to alter it?” I walked fast, for it was a cold, frosty night in January; as I approached my lodgings, I turned from a general view of my affairs to the particular speculation as to whether my fire would be out; looking towards the window of my sitting-room, I saw no cheering red gleam.

76. Which choice best summarizes the passage?
- A. A character describes his dislike for his new job and considers the reasons why.
  - B. Two characters employed in the same office become increasingly competitive.
  - C. A young man regrets privately a choice that he defends publicly.
  - D. A new employee experiences resistance, then frustration, and finally despair.
77. The main purpose of the opening sentence of the passage is to \_\_\_\_\_
- A. establish the narrator’s perspective on a controversy.
  - B. provide context useful in understanding the narrator’s emotional state.
  - C. offer a symbolic representation of Edward Crimsworth’s plight.
  - D. contrast the narrator’s good intentions with his malicious conduct.
78. During the course of the first paragraph, the narrator’s focus shifts from \_\_\_\_\_
- A. recollection of past confidence to acknowledgment of present self-doubt.
  - B. reflection on his expectations of life as a tradesman to his desire for another job.
  - C. generalization about job dissatisfaction to the specifics of his own situation.
  - D. evaluation of factors making him unhappy to identification of alternatives.
79. The references to “**shade**” and “**darkness**” at the end of the first paragraph mainly have which effect?
- A. They evoke the narrator’s sense of dismay.
  - B. They highlight the narrator’s internal conflict.
  - C. They reflect the narrator’s emotional isolation.
  - D. They signify the narrator’s confrontation with despair.
80. What is the primary purpose of the author mentioning “**the image of Duty**” and “**the fetish of Perseverance**” in the passage?
- A. To emphasize the narrator’s enjoyment of his work and commitment to his career.
  - B. To illustrate how these ideals help the narrator cope with the monotony of his job.
  - C. To suggest that perseverance leads to ultimate success and satisfaction.



- D. To convey the narrator's indifference toward his personal aspirations.
81. The passage indicates that when the narrator began working for Edward Crimsworth, he viewed Crimsworth as a \_\_\_\_\_.
- A. harmless rival      B. sympathetic ally      C. perceptive judge      D. demanding mentor
82. At the end of the second paragraph, the comparisons of abstract qualities to a lynx and a snake mainly have the effect of \_\_\_\_\_
- A. contrasting two hypothetical courses of action.  
 B. conveying the ferocity of a resolution.  
 C. suggesting the likelihood of an altercation.  
 D. illustrating the nature of an adversarial relationship.
83. The passage indicates that, after a long day of work, the narrator sometimes found his living quarters to be \_\_\_\_\_.
- A. dreary      B. intolerable      C. predictable      D. treacherous
84. **What does** “a feeling, in a great measure, involuntary, and which was liable to be excited by every, the most trifling movement, look, or word of mine” **imply?**
- A. Crimsworth’s aversion towards the speaker was largely automatic and not entirely under his control.  
 B. Crimsworth harbored a profound hatred for the speaker, and his feelings were stronger and more intense than mere antipathy.  
 C. Crimsworth's feelings were erratic and unstable, influenced by an assortment of stimuli.  
 D. Crimsworth's feelings were more about his internal struggles rather than a direct antipathy towards the speaker.
85. Which is similar to the word ‘flavour’ in Paragraph 2?
- A. shade      B. tone      C. intensity      D. spice

**Your answers:**

76. ....	77. ....	78. ....	79. ....	80. ....
81. ....	82. ....	83. ....	84. ....	85. ....

**Part 4. For questions 86-92 (0.7 point - 0.1/ each) You are going to read an extract from an article. Seven paragraphs have been removed from the extract. Choose from the paragraphs A - H the one which fits each gap (86- 92). There is one extra paragraph which you do not need to use. Write your answers in the corresponding numbered boxes.**

In theoretical physics, a Penrose diagram (named after mathematical physicist Roger Penrose) is a two-dimensional diagram capturing the causal relations between different points in spacetime through a conformal treatment of infinity. It is an extension (suitable for the curved spacetimes of e.g. general relativity) of the Minkowski diagram of special relativity where the vertical dimension represents time, and the horizontal dimension represents a space dimension. Using this design, all light rays take a 45° path (c=1). Locally, the metric on a Penrose diagram is conformally equivalent to the metric of the spacetime depicted.

<b>86.</b>	.....
------------	-------

While Penrose diagrams share the same basic coordinate vector system of other spacetime diagrams for local asymptotically flat spacetime, it introduces a system of representing distant spacetime by shrinking or "triturando" distances that are further away. Straight lines of constant time and straight lines of constant space

coordinates therefore become hyperbolae, which appear to converge at points in the corners of the diagram. These points and boundaries represent conformal infinity for spacetime, which was first introduced by Penrose in 1963.

<b>87.</b>	.....
------------	-------

Two lines drawn at  $45^\circ$  angles should intersect in the diagram only if the corresponding two light rays intersect in the actual spacetime. So, a Penrose diagram can be used as a concise illustration of spacetime regions that are accessible to observation. The diagonal boundary lines of a Penrose diagram correspond to the region called "null infinity", or to singularities where light rays must end.

<b>88.</b>	.....
------------	-------

Penrose diagrams are frequently used to illustrate the causal structure of spacetimes containing black holes. Singularities in the Schwarzschild solution are denoted by a spacelike boundary, unlike the timelike boundary found on conventional spacetime diagrams. This is due to the interchanging of timelike and spacelike coordinates within the horizon of a black hole (since space is uni-directional within the horizon, just as time is uni-directional outside the horizon).

<b>89.</b>	.....
------------	-------

Penrose diagrams are often used to illustrate the hypothetical Einstein–Rosen bridge connecting two separate universes in the maximally extended Schwarzschild black hole solution. The precursors to the Penrose diagrams were Kruskal - Szekeres diagrams. (The Penrose diagram adds to Kruskal and Szekeres' diagram the conformal crunching of the regions of flat spacetime far from the hole.)

<b>90.</b>	.....
------------	-------

The Einstein–Rosen bridge closes off (forming "future" singularities) so rapidly that passage between the two asymptotically flat exterior regions would require faster-than-light velocity, and is therefore impossible. In addition, highly blue-shifted light rays (called a blue sheet) would make it impossible for anyone to pass through.

<b>91.</b>	.....
------------	-------

While the basic space-like passage of a static black hole cannot be traversed, the Penrose diagrams for solutions representing rotating and/or electrically charged black holes illustrate these solutions' inner event horizons (lying in the future) and vertically oriented singularities, which open up what is known as a time-like "wormhole" allowing passage into future universes.

<b>92.</b>	.....
------------	-------

These features of the solutions are, however, not stable under perturbations and not believed to be a realistic description of the interior regions of such black holes; the true character of their interiors is still an open question.

### Missing Paragraphs:

**A.** These introduced the method of aligning the event horizon into past and future horizons oriented at  $45^\circ$  angles (since one would need to travel faster than light to cross from the Schwarzschild radius back into flat spacetime); and splitting the singularity into past and future horizontally-oriented lines (since the singularity "cuts off" all paths into the future once one enters the hole).

**B.** In the case of the rotating hole, there is also a "negative" universe entered through a ring-shaped singularity (still portrayed as a line in the diagram) that can be passed through if entering the hole close to its axis of rotation.

**C.** The singularity is represented by a spacelike boundary to make it clear that once an object has passed the horizon it will inevitably hit the singularity even if it attempts to take evasive action.

**D.** Penrose diagrams are more properly (but less frequently) called Penrose–Carter diagrams (or Carter–Penrose diagrams), acknowledging both Brandon Carter and Roger Penrose, who were the first researchers to employ them. They are also called conformal diagrams, or simply spacetime diagrams (although the latter may refer to Minkowski diagrams).

**E.** However, the Schwarzschild geometry has a simple mathematical form, and that form can be extended analytically. The mathematical extension consists of a second copy of the Schwarzschild geometry, reversed in time, glued along the Antihorizon. The complete analytic extension of the Schwarzschild geometry contains not only a Universe and a Black Hole, but also a Parallel Universe and a White Hole.

**F.** The maximally extended solution does not describe a typical black hole created from the collapse of a star, as the surface of the collapsed star replaces the sector of the solution containing the past-oriented white hole geometry and other universe.

**G.** The conformal factor is chosen such that the entire infinite spacetime is transformed into a Penrose diagram of finite size, with infinity on the boundary of the diagram. For spherically symmetric spacetimes, every point in the Penrose diagram corresponds to a 2-dimensional sphere

**H.** Thus, Penrose diagrams are also useful in the study of asymptotic properties of spacetimes and singularities. An infinite static Minkowski universe, coordinates  $(x,t)$  is related to Penrose coordinates  $(u,v)$  by: " $\tan(u+v) = \tan(x+t)$ " and " $\tan(u-v) = \tan(x-t)$ ". The corners of the Penrose diagram, which represent the spacelike and timelike conformal infinities, are  $\pi/2$  from the origin.

### Part 5. For questions 93-105.(1.3 points - 0.1/ each)

**Read the following passage and do the tasks that follow. Write your answers in the corresponding numbered boxes provided.**

#### THE PSYCHOLOGY IN HAPPINESS

**A.** In the late 1990s, psychologist Martin Seligman of the University of Pennsylvania urged colleagues to observe optimal moods with the same intensity with which they had for so long studied pathologies: we would never learn about the full range of human functions unless we knew as much about mental wellness as we do about mental illness. A new generation of psychologists built up a respectable body of research on positive character traits and happiness-boosting practices. At the same time, developments in neuroscience provided

new clues to what makes us happy and what that looks like in the brain. Self-appointed experts took advantage of the trend with guarantees to eliminate worry, stress, dejection and even boredom. This happiness movement has provoked a great deal of opposition among psychologists who observe that the preoccupation with happiness has come at the cost of sadness, an important feeling that people have tried to banish from their emotional repertoire. Allan Horwitz of Rutgers laments that young people who are naturally weepy after breakups are often urged to medicate themselves instead of working through their sadness. Wake Forest University's Eric Wilson fumes that the obsession with happiness amounts to a "craven disregard" for the melancholic perspective that has given rise to the greatest works of art. "The happy man" he writes, "is a hollow man."

**B.** After all people are remarkably adaptable. Following a variable period of adjustment, we bounce back to our previous level of happiness, no matter what happens to us. (There are some scientifically proven exceptions, notably suffering the unexpected loss of a job or the loss of a spouse. Both events tend to permanently knock people back a step.) Our adaptability works in two directions. Because we are so adaptable, points out Professor Sonja Lyubomirsky of the University of California, we quickly get used to many of the accomplishments we strive for in life, such as landing the big job or getting married. Soon after we reach a milestone, we start to feel that something is missing. We begin coveting another worldly possession or eyeing a social advancement. But such an approach keeps us tethered to a treadmill where happiness is always just out of reach, one toy or one step away. It's possible to get off the treadmill entirely by focusing on activities that are dynamic surprising, and attention- absorbing, and thus less likely to bore us than, say, acquiring shiny new toys.

**C.** Moreover, happiness is not a reward for escaping pain. Russ Harris, the author of *The Happiness Trap*, calls popular conceptions of happiness dangerous because they set people up for a "struggle against reality". They don't acknowledge that real life is full of disappointments, loss, and inconveniences. "If you're going to live a rich and meaningful life," Harris says, "you're going to feel a full range of emotions." Action toward goals other than happiness makes people happy. It is not crossing the finish line that is most rewarding, it is anticipating achieving the goal. University of Wisconsin neuroscientist Richard Davidson has found that working hard toward a goal, and making progress to the point of expecting a goal to be realized, not only activates positive feelings but also suppresses negative emotions such as fear and depression.

**D.** We are constantly making decisions, ranging from what clothes to put on, to whom we should marry, not to mention all those flavors of ice cream. We base many of our decisions on whether we think a particular preference will increase our well-being. Intuitively, we seem convinced that the more choices we have, the better off we will ultimately be. But our world of unlimited opportunity imprisons us more than it makes us happy. In what Swarthmore psychologist Barry Schwartz calls "the paradox of choice," facing many possibilities leaves us stressed out – and less satisfied with whatever we do decide. Having too many choices keeps us wondering about all the opportunities missed.

**E.** Besides, not everyone can put on a happy face. Barbara Held, a professor of psychology at Bowdoin College, rails against "the tyranny of the positive attitude". "Looking on the bright side isn't possible for some people and is even counterproductive" she insists. "When you put pressure on people to cope in a way that doesn't fit them, it not only doesn't work, it makes them feel like a failure on top of already feeling bad." The one-size-fits-all approach to managing emotional life is misguided, agrees Professor Julie Norem, author of *The Positive Power of Negative Thinking*. In her research, she has shown that the defensive pessimism that anxious people feel can be harnessed to help them get things done, which in turn makes them happier. A naturally pessimistic architect, for example, can set low expectations for an upcoming presentation and review all of the bad outcomes that she's imagining, so that she can prepare carefully and increase her chances of

success.

**F.** By contrast, an individual who is not living according to their values, will not be happy, no matter how much they achieve. Some people, however, are not sure what their values are. In that case Harris has a great question: "Imagine I could wave a magic wand to ensure that you would have the approval and admiration of everyone on the planet, forever. What, in that case, would you choose to do with your life?" Once this has been answered honestly, you can start taking steps toward your ideal vision of yourself. The actual answer is unimportant, as long as you're living consciously. The state of happiness is not really a state at all. It's an ongoing personal experiment.

**93-97.**

Reading passage has six paragraphs (A–F). Which paragraph mentions the following?

*Write the correct letter (A–F) from 93–97 on the answer sheet.*

**NB:** You may use any letter more than once.

- 93. The desideratum of individuals as regards fathoming what is really vexing to them
- 94. The dissipation of woe
- 95. The guru in their own cogitations
- 96. The wherewithal of man to grapple with revisions
- 97. The undertaking of activities containing interest and merit in their own right

**98-99.**

Choose **TWO** letters (A–E). Write the correct letters (A–E) 98 and 99 on the answer sheet.

Which **TWO** of the following people argue against the statement:

*"Happiness is the endless pursuit of a state where nothing feels missing"*

- A. Barry Schwartz
- B. Russ Harris
- C. Sonja Lyubomirsky
- D. Eric Wilson
- E. Martin Seligman

**100-101.**

Choose **TWO** letters (A–E). Write the correct letters (A–E) 100 and 101 on the answer sheet.

Which **TWO** of the following beliefs are identified as mistaken in the text?

- A. The extent of geniality which inherited opulence brings about is not on par with that of self-acquired capital.
- B. Social status impinges upon our perception of elation.

- C. A buoyant set of mine guarantees one's fruition.
- D. Infelicity should more or less be abstained form.
- E. Hysteria cases are commonplace in the immature.

**102-105**

Which of the following statements is **TRUE (T)**, **FALSE (F)**, or **NOT GIVEN (NG)**

- 102. Specialists is inquiring into various methodologies aimed at ameliorating a range of abysmal moods.
- 103. Adaptability can obstruct genuine happiness, contingent upon the engagement in pursuits that are replete with dynamism, astonishment and charisma.
- 104. Russ Harris proposes that achieving total emotional detachment, free from both highs and lows, is essential for leading a rich and meaningful life.
- 105. There is a reciprocal consensus that people should acknowledge the validity of negative emotions instead of dismissing them.

**Your answers:**

93. ....	94. ....	95. ....	96. ....	97. ....
98. ....	99. ....	100. ....	101. ....	102. ....
103. ....	104. ....	105. ....		

**Part 6. For questions 106-115 (1.3 points - 0.1/ each), the passage below consists of four sections marked A-D. For questions 106-115, read the passage and do the task that follows. Write your answers in the corresponding numbered boxes provided.**

**(A) The Guardian**

The vitriolic bust-up between Rolling Stone founder Jann Wenner and his appointed biographer, Joe Hagan, has already generated headlines, with Wenner denouncing Sticky Fingers as tawdry and Hagan, an investigative reporter, replying that a man used to getting his way won't like a portrait that includes both darkness and light. A deep ambiguity runs through Hagan's exhaustively researched (and sometimes exhausting) account of a man who can justly claim to have changed popular culture. Rolling Stone, which Wenner, mentored by the eminent jazz critic Ralph Gleason, founded as a Berkeley dropout in 1967, brought intelligence and visual grace to what was previously a squall of fan mags-establishing a canon of writers that included Greil Marcus, Jerry Hopkins, Nick Tosches, Jon Landau, and, most notoriously, Hunter S Thompson. Wenner's magazine surfed the waves of 60's idealism, psychedelia and political counterculture, though unlike the underground press it was no visual freak-out its restrained black and white format was part of its gravitas. Wenner was a keen advocate of LSD and pot, yet he was also an ambitious social climber, inveigling himself with rock stars and imagining his future as a press baron, a rock'n'roll Citizen Kane.

**(B) The NY Times**

Whether Wenner can see it or not, his bet has paid off - Hagan has delivered a supple, confident, dispassionately reported and deeply well-written biography. It's a big book, one that no one will wish longer, but its chapters move past like a crunching collection of singles and not a thumb-sucking double album. It's a joy to read and feels built to last. Hagan is among those relatively rare biographers who keep macro and micro in yin-yang balance. He's in command of the big picture. The critic and intellectual in him understands why a mere rock magazine editor - Wenner founded Rolling Stone in San Francisco in 1967 - matters to the history of the 20th century. In the decades that followed the '70s, Rolling Stone made money but largely ceased to matter. Hagan charts the way that Wenner, in some of his employees' estimation, sold out to record companies, and the way he allowed his favorite artists to control what was written about them. Wenner comes off in



'Sticky Fingers' as a narcissist, a bully, a seducer and a betrayer, and a troubled soul. Feuds with countless people - Lennon, Paul Simon, Greil Marcus, the promoter Bill Graham - are recounted. He also led a big life that was packed with incident and frequently even joy. 'The alchemy of his appetites,' Hagan writes, is what made him a great editor in chief.

**(C) SPIN**

Jann Wenner doesn't want you to read 'Sticky Fingers', a new biography about the life of Jann Wenner, founder of Rolling Stone. That's too bad, because the book deserves to be devoured by anyone interested in the history of Rolling Stone, and more broadly, how it shaped and tilted cultural attitudes over the last half-century. Meticulously researched and filled with fascinating anecdotes and gossip items, Sticky Fingers is a definitive account of the man who possibly more than any musician impacted the way America consumes and thinks of rock n' roll. I finished the book impressed by Wenner's accomplishments and force of will, but wary of how he made an active choice to hollow out his humanity, flipping on confidantes once they were no longer of use and always picking the route that would give him the most money. This kind of hunger passes down through generations - Toward the end, Wenner's son Gus is introduced to us as a mini-Jann, one who has absorbed his father's capacity for ambition from a young age. His first act, after being installed as the head of Rolling Stone's website at the tender age of 25, is to fire a dozen staffers. 'I believe so much in the cause,' Gus says when asked if firing experienced staffers is weird. 'And there's so much on the line between what the brand represents, myself, and my family. The well-being of my family.'

**(D) Kirkus**

Much like its spiritual cousin Saturday Night Live, Rolling Stone magazine has been a murderers' row of talent for decades, from the groundbreaking Lester Bangs to the gonzo engine of Hunter S. Thompson to political wunderkind Matt Taibbi. Here, former Rolling Stone contributing editor Hagan provides the most complete portrait ever of the man who has firmly gripped the magazine's helm the whole time, a man whose thumbprint on the American culture was matched only by a vacillating stew of ego and insecurity. For fans, newbies, and journalism junkies alike, the iconic stories are here e.g., Patti Hearst's Stockholm syndrome, the assassination of John Lennon, and the combative, brotherly bond between Wenner and Thompson in the latter's heyday. The author also explores the heavily drug-fueled work ethic among Wenner and contemporaries like Annie Leibovitz, Wenner's infamously combative marriage, and his long, painful struggle with his sexuality. To his credit, Hagan doesn't trade on his access to his subject's celebrity friends; when Mick Jagger or Michael Douglas pop up in the narrative, it's because they're substantive eyewitnesses to the scene at the time. Working with his subject's full consent and participation, the author manages to create a far deeper portrait than many readers will expect.

- 106. Fails to detail Wenner's influence on the evolution of societal values and norms?
- 107. Hagan's decision to refrain from piggybacking on others' fame for his narrative gain?
- 108. Mentions publications concerning influential figures tailored to resonate with a particular demographic of readers?
- 109. Exhibits the author's hesitance stemming from Wenner's particular choices?
- 110. Insinuates at Wenner's complex carnal proclivity?
- 111. Articulates that the author navigates between contrasting perspectives to reach narrative equilibrium?
- 112. Reflects the dim light in which Wenner came to be viewed?
- 113. Illustrates Wenner's contrastive social persona?
- 114. Demonstrates Hagan's attribution of Wenner's achievements to his eclectic preferences?
- 115. Displays an absence of empathy towards Wenner?

**Your answers:**

106. ....	107. ....	108. ....	109. ....	110. ....
111. ....	112. ....	113. ....	114. ....	115. ....



**SECTION IV. WRITING (6.0 POINTS)**

**Part 1: Read the following extract and summarize it in your own words. The summary should be between 100 and 120 words. You MUST NOT copy the original.**

*Impossibility theorem, the thesis that it is generally impossible to assess the common good*

The impossibility theorem assumes that agents have complete and well-ordered preferences over all the outcomes under consideration in a collective choice situation. This requires that agents know whether they prefer one in any pair of possible outcomes, and it requires that agents' preferences obey the logical relationship of transitivity, which requires that if Adams is preferred to Madison and Madison is preferred to Washington, then Washington cannot be preferred to Adams. The impossibility theorem considers cases in which three or more agents make a collective choice from three or more alternatives in situations as diverse as democratic voting, establishing public policies that reflect social welfare, and the marketplace. The theorem is constructed to resolve the question of whether there is any mathematical procedure for amalgamating individual preferences that results in a collectively rational preference ordering of all the possible outcomes.

In addition to assuming that individuals' preferences are rational, the theorem stipulates that four minimal conditions must apply to the decision procedure for its result to be valid. The theorem requires that individuals be permitted to have any rational preference ordering over alternatives, that there not be a single dictator whose preference over a single pair of alternatives holds for the group decision, that the collective ranking over outcomes remains unchanged if one of the alternatives ceases to be considered, and that a unanimous preference over a pair of outcomes implies a collective preference over that pair. These requirements are generally regarded as beyond controversy.

The theorem proves that, given these minimal assumptions, it is impossible to construct any procedure that results in a collectively rational expression of individual desires. Though highly technical in its statement, the theorem has important implications for philosophies of democracy and political economy. The theorem rejects the notion of a collective democratic will, whether derived through civic deliberation or construed by experts who paternalistically apply knowledge of what is best for a population. The theorem also denies that there could be objective basic needs or universal criteria that any procedure for collective decision making should recognize, such as minimal nutrition standards or human rights. (363 words)

**Your summary:**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

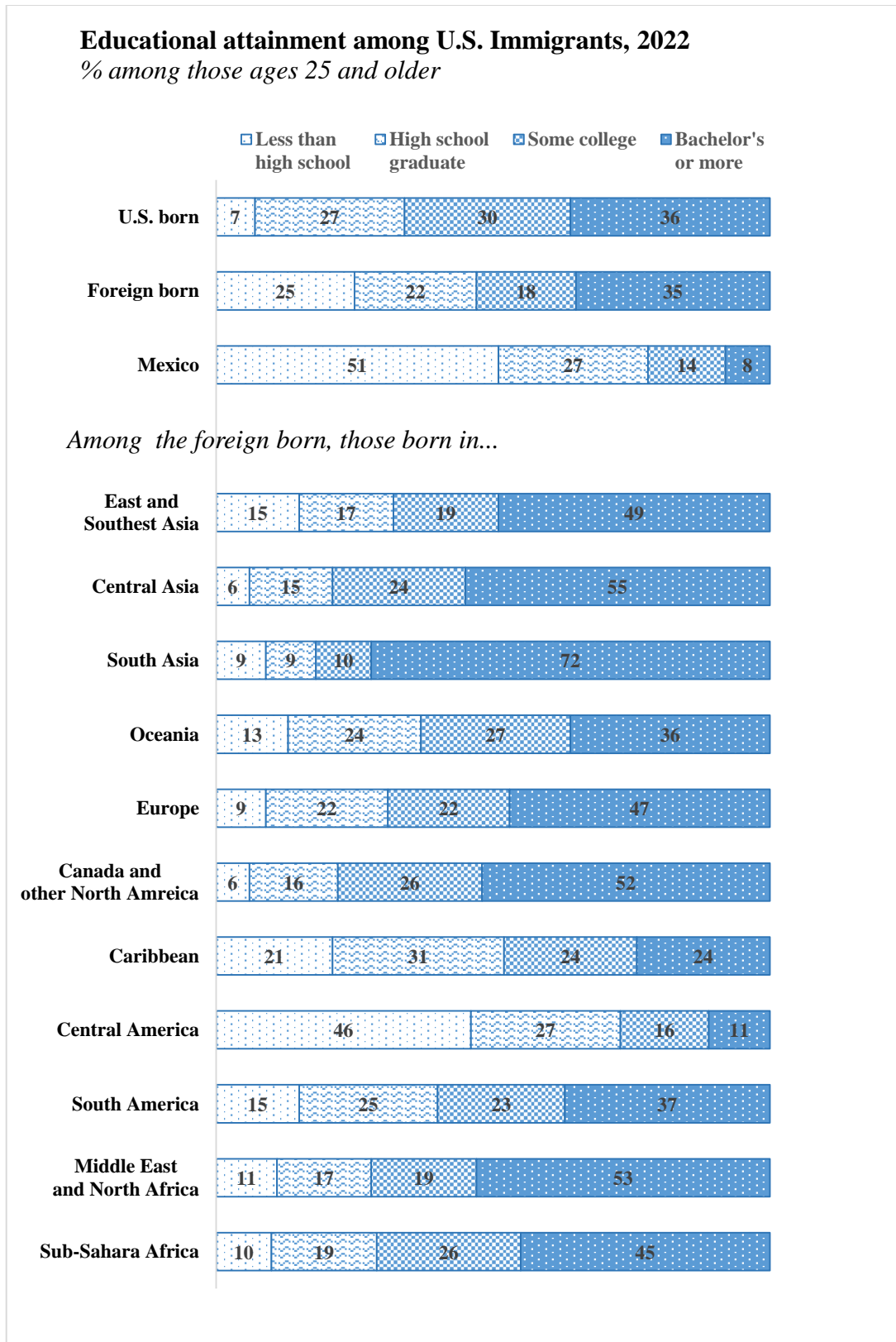
.....

.....

.....

Blank page with horizontal dotted lines for writing.

**Part 2.** The charts below provide some information about the U.S. immigrants in 2022. Summarize the information by selecting and reporting the main points and make comparisons where relevant. You should write at least 150 words.







**== THE END ==**