

TRƯỜNG ĐẠI HỌC CÔNG NGHỆ  
HỘI ĐỒNG TUYỂN SINH SDH NĂM 2015

ĐỀ THI TUYỂN SINH SAU ĐẠI HỌC NĂM 2015 (ĐỢT 2)  
MÔN THI: TIN HỌC CƠ SỞ  
THỜI GIAN LÀM BÀI: 180 PHÚT, ĐỀ THI CÓ 2 TRANG

CÂU 1.

Câu 1a (1 điểm): Tính toán độ phức tạp của hàm *count()* sử dụng kí hiệu  $O$

```
int count (int n) {  
    int sum = 0;  
    for (int i = 0; i < n/2; i++)  
        sum = sum + i;  
    for (int i = 0; i < n; i++)  
        if (i mod 2 == 0)  
            for (int j = 0; j < n; j++)  
                sum = sum + i*j;  
    return sum;  
}
```

Câu 1b (2.5 điểm):

- Định nghĩa cây nhị phân tìm kiếm
- Cho cây nhị phân tìm kiếm  $T$  và các hàm sau đây
  - o  $T.value()$ : trả lại giá trị tại gốc của cây  $T$
  - o  $T.left()$ : trả lại cây con bên trái của cây  $T$
  - o  $T.right()$ : trả lại cây con bên phải của cây  $T$
- Viết hàm kiểm tra  $check(T)$  xem cây nhị phân  $T$  có phải là cây nhị phân tìm kiếm hay không.
- Vẽ cây nhị phân tìm kiếm cho dãy số 3 5 8 9 1 4 6 7

CÂU 2.

Cho ma trận vuông  $A$  ( $n \times n$ ) biểu thị mối quan hệ bạn bè của  $n$  người (được đánh số từ 0 đến  $n - 1$ ) trên mạng xã hội với quy ước như sau:  $A[i][j] = 1$  nếu người  $i$  và người  $j$  là bạn của nhau;  $A[i][j] = 0$  nếu không là bạn bè; và  $A[i][i] = 0$  ( $0 \leq i < n$ ). Cho số nguyên  $u$  ( $0 \leq u < n$ ). Hãy viết chương trình giải các bài toán sau:

1. In ra màn hình danh sách tất cả  $n$  người và số bạn mỗi người có trong mạng.
2. Liệt kê ra màn hình tất cả các cặp đôi trong mạng cùng số bạn chung mà họ có.
3. Hãy tìm (và in ra màn hình) cặp đôi *đáng kết bạn nhất* trong mạng. Hai người được hiểu là *đáng kết bạn nhất* nếu có số bạn chung nhiều nhất và chưa là bạn của nhau trong mạng.

Dữ liệu được nhập vào từ file “matrix.txt” có cấu trúc như sau:

- Dòng đầu tiên ghi số nguyên dương  $n$ .
- $n$  dòng tiếp theo ghi  $n$  dòng của ma trận  $A$ . Các số trên mỗi dòng cách nhau bởi một dấu cách.

Ví dụ minh họa:

matrix.txt	Kết quả trên màn hình
5	Câu 1:
0 1 1 0 0	0 (2) 1 (3) 2 (3) 3 (1) 4 (3)
1 0 1 0 1	Câu 2:
1 1 0 0 1	0 ← (1) → 1 0 ← (1) → 2 0 ← (0) → 3 0 ← (2) → 4
0 0 0 0 1	1 ← (2) → 2 1 ← (1) → 3 1 ← (1) → 4
0 1 1 1 0	2 ← (1) → 3 2 ← (1) → 4
	3 ← (0) → 4
	Câu 3:
	0 ← (2) → 4

CÂU 3. Công ty A cần lập một cơ sở dữ liệu (CSDL) quản lý các đơn hàng (phiếu bán hàng) có dạng sau:

Mã đơn hàng: xxx	Ngày tháng: xxx				
Mã khách hàng: xxx	Tên khách hàng: xxx			Địa chỉ khách hàng: xxx	
Tổng tiền đơn hàng: xxx					
Stt	Mã sản phẩm	Tên sản phẩm	Đơn giá	Số lượng	Thành tiền
1	xxx	xxx	xxx	xxx	xxx
2	xxx	xxx	xxx	xxx	xxx
...					
xxx	xxx	xxx	xxx	xxx	xxx

Một số quy tắc (ràng buộc) trong CSDL này:

- Mã đơn hàng quy định ngày-tháng và mã khách hàng (*Ngầm định*: một khách hàng chỉ có nhiều nhất một đơn hàng trong một ngày, tuy nhiên, một khách hàng có thể có nhiều đơn hàng trong nhiều ngày).
- Mã khách hàng quy định tên khách hàng và địa chỉ khách hàng (*Ngầm định*: không có hai khách hàng khác nhau vừa trùng tên vừa trùng địa chỉ).
- Mã sản phẩm quy định tên sản phẩm và đơn giá.
- Trong một đơn hàng, **Stt** (Số thứ tự) khác nhau cho **Mã sản phẩm** khác nhau.

3.1. Xây dựng (với giải thích ngắn gọn) mô hình liên kết thực thể (mô hình ER) tương ứng với CSDL đơn hàng của công ty A (*chỉ rõ định lượng của liên kết*);

3.2. Chuyển (*có giải thích*) mô hình liên kết thực thể ở mục 3.1) sang mô hình (dữ liệu) quan hệ và chuẩn hóa tới mức 3 các quan hệ thuộc mô hình quan hệ này.

3.3. Theo mô hình quan hệ ở 3.2), hãy viết các câu lệnh SQL:

- Hiện tên, địa chỉ liên hệ của khách hàng có mã khách hàng "MaKH12345".
- Liệt kê các mã đơn hàng của khách hàng có mã khách hàng "MaKH 12345".
- Liệt kê các sản phẩm mà khách hàng có mã khách hàng "MaKH12345" đã từng mua.

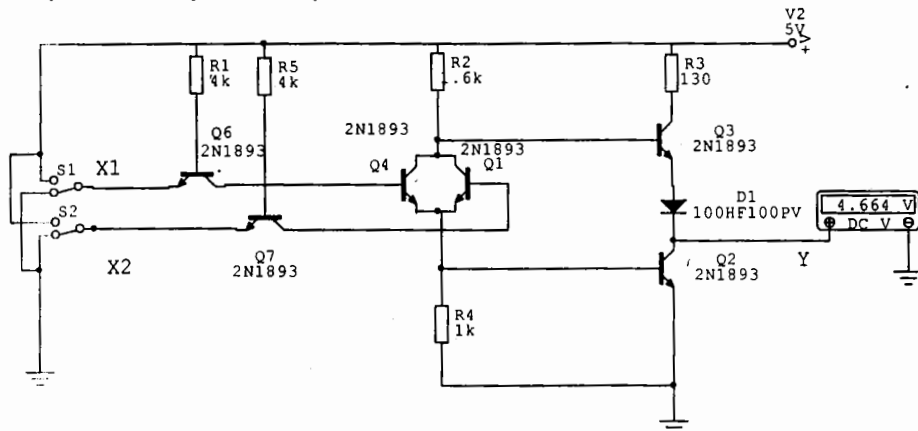
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**Cán bộ coi thi không giải thích gì thêm**

**ĐỀ THI TUYỂN SINH SAU ĐẠI HỌC NĂM 2015**  
**MÔN THI : KỸ THUẬT ĐIỆN TỬ SỐ**

**Thời gian làm bài : 180 phút**

**Câu 1:**

Cho mạch điện như hình 1  
2 chuyển mạch S1,S2 cung cấp mức lô gíc cho 2 lối vào X1, X2. Lối ra Y được hiển thị trên mạch đo DC.

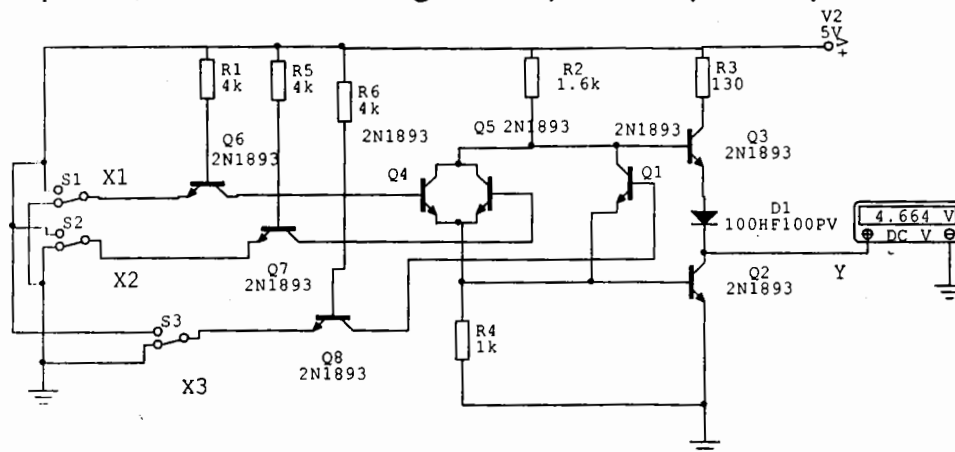


**Hình 1**

Hãy giải thích nguyên lý làm việc, xây dựng bảng chân lý và viết phương trình lô gíc mà mạch điện trên thực hiện.

**Câu 2 :** Cho mạch điện như hình 2.

Ba lối vào X<sub>1</sub> X<sub>2</sub> và X<sub>3</sub> có thể nhận các mức lô gíc 0 và 1 từ các chuyển mạch S1, S2, S3. Lối ra lô gíc Y được hiển thị trên mạch đo DC.



**Hình 2**

Hãy giải thích nguyên lý làm việc, xây dựng bảng chân lý và viết phương trình lô gíc mà mạch điện trên thực hiện

### Câu 3

Cho Trigo J K như hình 3.

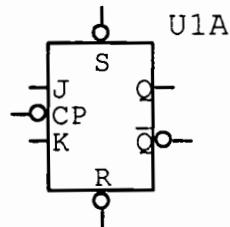


Hình 3

Hãy xây dựng bảng chân lý của Trigo và viết phương trình logic của Trigo JK.

### Câu 4.

Trình bày giản đồ xung mô tả hoạt động của Trigo JK như hình 4

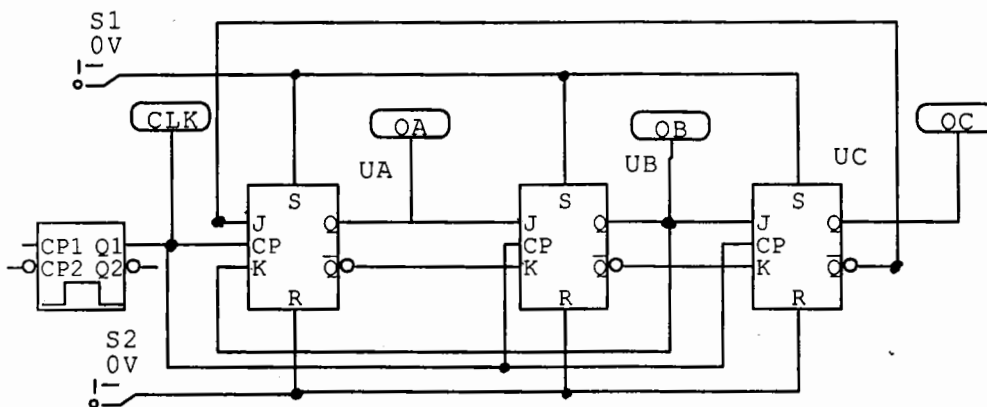


Hình 4

### Câu 5.

Cho một mạch điện như hình 5.

Chân S tương đương với SD, Chân R tương đương với CD. Các chuyển mạch S1, S2 điều khiển hoạt động của bộ đếm. Xung CLK được lấy từ máy phát xung chuẩn.



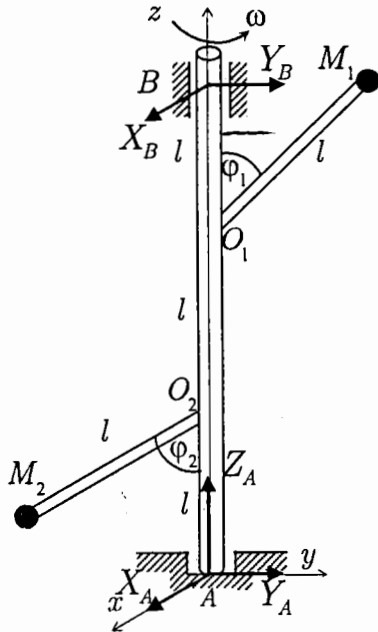
Hình 5

Hãy phân tích mạch điện, giải thích quá trình hình thành xung của mạch điện nói trên và qua đó xây dựng bảng chân lý, vẽ giản đồ xung tại các lối ra QA, QB, QC.

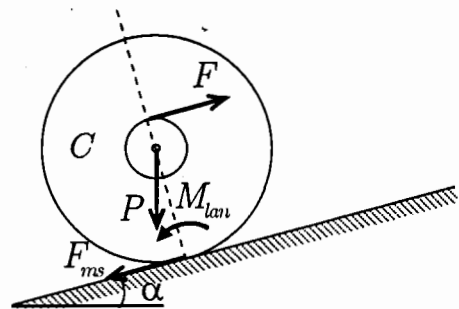
**ĐỀ THI TUYỂN SINH SAU ĐẠI HỌC NĂM 2015**  
**MÔN THI: CƠ HỌC ỨNG DỤNG**  
**THỜI GIAN LÀM BÀI: 180 PHÚT**

**Bài 1 (5 điểm).** Cơ hệ như trên hình 1, quay đều quanh trục AB với vận tốc góc  $\omega$ . Thanh  $O_1M_1$  khối lượng  $2m$  nằm trong mặt phẳng thẳng đứng  $ABM_1$  làm với thanh AB một góc  $\varphi_1$ , Thanh  $O_2M_2$  khối lượng  $2m$  nằm trong mặt phẳng thẳng đứng  $ABM_2$  vuông góc với mặt phẳng  $ABM_1$ , làm với thanh AB một góc  $\varphi_2$ . Trên đầu mút các thanh gắn các quả cầu  $M_1$  và  $M_2$  có cùng khối lượng  $m$ . Bỏ qua kích thước của các quả cầu. Biết  $AO_2 = O_1O_2 = O_1B = O_1M_1 = O_2M_2 = l$ . Xác định áp lực lên các ổ đỡ A và B.

**Bài 2 (5 điểm).** Bánh xe C khối lượng  $m$ , lăn không trượt trên mặt phẳng nghiêng với mặt phẳng ngang một góc  $\alpha$ . Các kích thước: bán kính vành ngoài  $R = 4r$ , bán kính vành trong  $r$ , bán kính quán tính  $i_C = \rho$ . Tìm lực  $F$  tác dụng lên vành trong của bánh C song song với mặt phẳng nghiêng (như hình 2) để bánh xe lăn không trượt biết hệ số ma sát trượt là  $f$  và hệ số ma sát lăn là  $k$ .



Hình 1



Hình 2

*Cán bộ coi thi không giải thích gì thêm*

**TRƯỜNG ĐẠI HỌC CÔNG NGHỆ**  
**HỘI ĐỒNG TUYỂN SINH SĐH NĂM 2015**

**ĐỀ THI TUYỂN SINH SAU ĐẠI HỌC NĂM 2015**  
**MÔN THI: SINH HỌC PHÂN TỬ ĐẠI CƯƠNG**  
**THỜI GIAN LÀM BÀI: 180 PHÚT**

Câu 1. Anh/ chị hãy trình bày quá trình truyền thông tin di truyền từ ADN tới protein.

Câu 2. Anh/ chị hãy trình bày quá trình sao chép ADN và nêu các enzyme chính cùng vai trò của chúng trong sao chép ADN.

Câu 3. Anh/chị hãy trình bày cấu trúc và chức năng của các axit nucleic. Nêu các điểm khác biệt giữa cấu trúc của ADN và ARN.

Thời gian làm bài: 120 phút (Không kể thời gian phát đề)

(Đề thi gồm 04 trang. Thí sinh làm bài trên PHIẾU TRẢ LỜI)

**SECTION 1: STRUCTURE AND WRITTEN EXPRESSION**

**QUESTIONS 1-20**

**Directions:** *Questions 1-20 are incomplete sentences. Beneath each sentence, you will see four words or phrases, marked A, B, C and D. Choose the one word or phrase that best completes the sentence. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.*

1. She agreed \_\_\_\_\_ the job as soon as possible.  
A. start                      B. starting                      C. starts                      D. to start
2. The TV program was so \_\_\_\_\_ that I felt asleep.  
A. surprising                      B. tired                      C. annoyed                      D. boring
3. There were \_\_\_\_\_ people at the party! There was nowhere to dance.  
A. so many                      B. such a                      C. such                      D. so much
4. I hate being late. I like to arrive \_\_\_\_\_ time.  
A. by                      B. on                      C. at                      D. for
5. I'm going to bed when this TV program \_\_\_\_\_.  
A. ended                      B. will end                      C. is going to end                      D. ends
6. When she called, I \_\_\_\_\_ a bath.  
A. am having                      B. was having                      C. were having                      D. had
7. Rolls Royce cars \_\_\_\_\_ in England.  
A. were made                      B. is made                      C. makes                      D. are made
8. Is there \_\_\_\_\_ traffic in your town?  
A. many                      B. a few                      C. some                      D. much
9. Last year, we managed \_\_\_\_\_ a new house.  
A. bought                      B. to buying                      C. to buy                      D. buy
10. I'm looking forward \_\_\_\_\_ more free time.  
A. to have                      B. having                      C. to having                      D. of having
11. We arrived \_\_\_\_\_ the station five minutes late.  
A. to                      B. at                      C. for                      D. on
12. She \_\_\_\_\_ work on Monday. It is her day off.  
A. must                      B. have to                      C. doesn't have to                      D. didn't
13. She was very ill and \_\_\_\_\_ died, but fortunately, she got better.  
A. nearly                      B. carefully                      C. too                      D. usually
14. He is one of the \_\_\_\_\_ boys in the class.  
A. funnier                      B. most funny                      C. more funny                      D. funniest
15. You have the same hobby \_\_\_\_\_ Jack.  
A. as                      B. with                      C. so                      D. like
16. The hotel \_\_\_\_\_ we stayed was very comfortable.  
A. who                      B. where                      C. whose                      D. when
17. I didn't like this city. The streets were so dirty and the air was so \_\_\_\_\_.  
A. pollute                      B. polluted                      C. to pollute                      D. polluting
18. This is the place in \_\_\_\_\_ he was born.  
A. which                      B. whose                      C. where                      D. there
19. Peter enjoyed \_\_\_\_\_ to the zoo when he was small.  
A. taken                      B. being taken                      C. taking                      D. to take
20. Please ask \_\_\_\_\_ help if you want.  
A. for                      B. to                      C. of                      D. in

**QUESTIONS 21-50**

**Directions:** *In questions 21-50, each sentence has four underlined words or phrases. The four underlined parts of the sentence are marked A, B, C and D. Identify the one underlined word or phrase that must be changed in order for the sentence to be correct. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.*

21. I wish becoming a teacher after leaving the university next year. (A - B - C - D)
22. Honestly, Rome was much hoter than I expected. (A - B - C - D)
23. You can tell me your secret and I didn't tell anyone. (A - B - C - D)
24. Of all the book I have read, I love "Romeo and Juliet" most. (A - B - C - D)
25. I have the habit of going to bed on 9 p.m. every Saturday. (A - B - C - D)
26. He often goes to the concert at Saturday night to relax. (A - B - C - D)
27. Neither I nor she like to talk about politics. (A - B - C - D)
28. I used to going fishing with my dad when I was a little boy. (A - B - C - D)
29. The man I met yesterday told me that I were pretty. (A - B - C - D)
30. She asked me what did I do yesterday at school. (A - B - C - D)
31. I have got much homeworks to do tonight, so I can't come to your party. (A - B - C - D)
32. It took me half an hour travelling from my house to his school. (A - B - C - D)
33. Some people don't go out at night because of they are frightened. (A - B - C - D)
34. You shouldn't having a late dinner as it is not good for your health. (A - B - C - D)
35. Everyone are eager to welcome a new member of the family. (A - B - C - D)
36. If I were there, I will give you a call at once. (A - B - C - D)
37. Jane and Peter are so nice people that they are loved by their neighbours. (A - B - C - D)
38. We decided renting a house with a swimming pool yesterday. (A - B - C - D)
39. Despite John was ill, he tried to go to work on time. (A - B - C - D)
40. If I had enough money, I will buy a bigger house in the city. (A - B - C - D)
41. I had a few problems, but James gave me some good advices. (A - B - C - D)
42. She refused to being there at the time of the party because she was too busy. (A - B - C - D)
43. Mary is so fond in reading comic books in the evening. (A - B - C - D)
44. He said me that he didn't mean to hurt me. (A - B - C - D)
45. I talked to the girl who dog bit the postman. (A - B - C - D)
46. "Were your parents worrying when you told them your exam results?" (A - B - C - D)
47. Maria is interested on playing badminton with her friends every morning. (A - B - C - D)
48. I will never forget to meeting him for the first time in my life. (A - B - C - D)
49. You had better get your hair to cut at the hairdresser's. (A - B - C - D)
50. Jack and his wife lived next to me since their son, Thomas, was born. (A - B - C - D)

## SECTION 2: READING COMPREHENSION

### QUESTIONS 51-100

**Directions:** In this section, you will read several passages. Each one is followed by a number of questions about it. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.

#### PASSAGE 1

It is very important to have healthy teeth. Good teeth help us to chew our food. They also help us to look nice. How does a tooth go bad? The decay begins in a little crack in the enamel covering of the tooth. This happens after germs and bits of food have collected there. Then the decay slowly **spreads** inside the tooth. **Eventually**, poison goes into the blood, and we may feel quite ill.

How can we keep our teeth healthy? Firstly, we ought to visit our dentist twice a year. He can fill the small holes in our teeth before they destroy the teeth. He can examine our teeth to check that they are growing in the right way. Unfortunately, many people wait until they have a toothache before they see a dentist. Secondly, we should brush our teeth with a toothbrush and fluoride toothpaste at least twice a day - once after breakfast and once before we go to bed. We can also use **wooden** toothpicks to clean between our teeth after a meal. Thirdly, we should eat food that is good for our teeth and our body: milk, cheese, fish, brown bread, potatoes, red rice, raw vegetables and fresh fruit. Chocolates, sweets, biscuits and cakes are bad, especially when we eat them between meals. They are harmful because they stick to our teeth and cause decay.

51. Good teeth mainly help us to \_\_\_\_\_.  
A. look wealthy                      B. look important                      C. chew our food                      D. drink better
52. When there is a little crack in the enamel covering of the tooth, our teeth \_\_\_\_\_.  
A. become hard                      B. begin to decay                      C. make us feel quite good                      D. become healthy
53. What does the word "**spreads**" mean?  
A. grows                      B. sends                      C. reduces                      D. collects
54. What does the word "**Eventually**" mean?  
A. Firstly                      B. Lastly                      C. Slowly                      D. Moreover
55. How often should we visit the dentist?  
A. twice a month                      B. twice a year                      C. twice a week                      D. every year
56. A lot of people do not visit a dentist until \_\_\_\_\_.  
A. they have a toothache                      B. they have brushed their teeth  
C. they use wooden toothpicks                      D. their teeth grow properly
57. When do we need to brush the teeth?  
A. Before the breakfast and after the meal                      B. After the breakfast and before going to bed  
C. Before breakfast and before the meal                      D. Before the meals and before going to bed
58. What does the word "**wooden**" mean?  
A. made of wood                      B. made of iron                      C. made of steel                      D. made of nylon
59. What may be beneficial to our teeth?  
A. ice-cream                      B. caffeine                      C. vegetables and fruits                      D. tea



60. What may be most harmful to our teeth?  
 A. red rice                      B. fresh fruit                      C. raw vegetables                      D. sweet things
61. How many pieces of advice are there to keep our teeth healthy?  
 A. 1                      B. 2                      C. 3                      D. 4
62. The best title for the passage would be \_\_\_\_\_.  
 A. "How to keep our teeth healthy"  
 B. "How to clean our teeth"  
 C. "How to make our teeth nicer"  
 D. "How to keep our teeth ever white"

## PASSAGE 2

Christopher Columbus was born in Genoa, Italy in 1451. While spending most of his early years at sea, Columbus began to believe that he could find a **shortcut** to the Indies by sailing west across the Atlantic Ocean. Unfortunately, the King of Portugal refused to **finance** such a trip, and Columbus was forced to present his idea to the King and Queen of Spain. In 1492, King Ferdinand and Queen Isabella agreed to pay for his trip. They gave him a **crew** and three ships, the Nina, Pinta and Santa Maria. Columbus sailed aboard the Santa Maria.

The trip was long and hard. Many sailors grew **restless** and wanted to turn around. After two months at sea, land was finally sighted. The ships docked on the island of Hispaniola. Columbus named the native people he saw "Indians", because he believed he had found the shortcut he was looking for. In **actuality**, Columbus found North America, a brand new continent at that time. Columbus, however, couldn't be convinced. He died with the belief he had found the shortcut to the Indies. Soon, however, other explorers and nations understood the importance of his discoveries. Columbus' discoveries set the stage for the Age of Exploration, one of the most fascinating and exciting times in the world history.

63. Where was Christopher Columbus born?  
 A. The New World                      B. Spain                      C. Portugal                      D. Italy
64. Columbus believed he could find a shortcut to the \_\_\_\_\_.  
 A. America                      B. Spain                      C. Indies                      D. Atlantic Ocean
65. What does the word "**shortcut**" mean?  
 A. trip                      B. journey                      C. short way                      D. voyage
66. What does the word "**finance**" mean?  
 A. pay for                      B. share                      C. agree                      D. present
67. \_\_\_\_\_, Columbus set sail.  
 A. In 1451                      B. In 1492                      C. Before 1451                      D. Before 1492
68. What does the word "**crew**" mean?  
 A. team                      B. money                      C. alone                      D. gun
69. Which of the following was NOT one of his ships?  
 A. Nina                      B. Pinta                      C. Isabella                      D. Santa Maria
70. Which is NOT true?  
 A. Columbus was born in Italy.                      B. Columbus received three ships and a crew from the King and Queen of Spain.  
 C. Columbus found a shortcut to the Indies.                      D. The journey across the Atlantic took two months.
71. What does the word "**restless**" mean?  
 A. without resting                      B. without eating                      C. without working                      D. without sailing
72. What does the word "**actuality**" mean?  
 A. though                      B. order                      C. turn                      D. fact
73. What did Columbus name the native people he saw?  
 A. Indies                      B. Indi                      C. Indians                      D. American
74. What did Columbus actually find?  
 A. The Indies                      B. Atlantic Ocean                      C. North America                      D. Genoa
75. Which can be the best title for the passage?  
 A. King Ferdinand                      B. Christopher Columbus                      C. Queen Isabella                      D. The Indians

## PASSAGE 3

Green is a beautiful color! In nature, the grass that you walk on is green and the leaves that you see on trees are usually green. Most of the plants that you see are green, too! Frogs are green and many grasshoppers are green, too. Turtles are different shades of green.

Did you know that you can make green paint by mixing blue and yellow? Because you can make green by mixing two **primary** colors, it is called a secondary color. Green is also the name used to describe the **movement** to make products that do not harm the Earth. Green products are often those made from recycled materials or those that are safe to throw out in the trash.

76. Which of the following might be an example of a green product?  
 A. a plastic bottle that can be recycled                      B. a big truck  
 C. a frog                      D. a plastic bottle that cannot be recycled
77. Which of the following might NOT be an example of green in nature?  
 A. the grass                      B. the plant                      C. the leaf                      D. the bike
78. According to the passage, which is NOT given as an example of green?  
 A. A mushroom                      B. A frog                      C. A grasshopper                      D. A leaf
79. Turtles are \_\_\_\_\_.  
 A. different shades of green                      B. green products                      C. not found in nature                      D. not green
80. Green paint can be created by mixing \_\_\_\_\_.  
 A. yellow and red                      B. yellow and purple                      C. yellow and blue                      D. yellow and brown

81. Green is called \_\_\_\_\_ by mixing two primary colors.  
 A. a primary color                      B. a secondary color                      C. a type of kite                      D. a kind of trash
82. What does the word "**primary**" mean?  
 A. new                      B. private                      C. unimportant                      D. basic
83. What is the word "**movement**" closest in meaning to?  
 A. journey                      B. visit                      C. trip                      D. action
84. What is a green product?  
 A. One that does not harm the Earth                      B. One that is mixed together  
 C. One that is fun                      D. One that is made from grass
85. Which can be the best title for the passage?  
 A. Green color                      B. Green plants                      C. Green animals                      D. the Earth

#### PASSAGE 4

Alexander Graham Bell was born in Edinburgh, Scotland on March 3, 1847. When he was only eleven years old, he invented a machine that could clean wheat. Graham studied anatomy and physiology at the University of London, but moved with his family to Quebec, Canada in 1870.

Bell soon moved to Boston, Massachusetts. In 1871, he began working with deaf people and published the system of Visible Hearing that was developed by his father. Visible Hearing **illustrates** how the tongue, lips, and throat are used to produce vocal sounds. In 1872, Bell founded a school for the deaf which soon became part of Boston University.

Alexander Graham Bell is best known for his invention of the telephone. While trying to discover the secret of transmitting multiple messages on a single wire, Bell heard the sound of a plucked string along some of the electrical wires. One of Bell's assistants, Thomas A. Watson, was trying to reactivate a telephone transmitter. After hearing the sound, Bell believed he could send the sound of a human voice over the wire. After receiving a patent on March 7, 1876 for transmitting sound along a single wire, he successfully **transmitted** human speech on March 10th. Bell's telephone patent was one of the most valuable patents ever **granted**. He started the Bell Telephone Company in 1877.

Alexander Graham Bell died on August 2, 1922. On the day of his burial, in honor of Bell, all telephone services in the United States were stopped for one minute.

86. Where was Alexander Graham Bell born?  
 A. England                      B. Scotland                      C. Quebec                      D. Boston
87. When did he invent the machine that could clean wheat?  
 A. In 1847                      B. In 1858                      C. In 1870                      D. In 1871
88. Who developed the system of Visible Hearing?  
 A. Himself                      B. His father                      C. His workmate                      D. The deaf
89. What does the word "**illustrates**" mean?  
 A. describes                      B. moves                      C. draws                      D. listens
90. What did Alexander Graham Bell do in 1872?  
 A. He invented a machine for cleaning wheat.                      B. He invented the telephone.  
 C. He founded a school for deaf people.                      D. He studied at the University of London.
91. What happened FIRST?  
 A. Bell invented the telephone.                      B. Bell published the Visible Hearing system.  
 C. Bell moved to Canada.                      D. Bell moved to Massachusetts.
92. Bell was most famous for the invention of \_\_\_\_\_.  
 A. photograph                      B. wire                      C. telephone                      D. electricity
93. Who was Thomas A. Watson?  
 A. Bell's assistant                      B. Bell's son                      C. Bell's cousin                      D. Bell's friend
94. What was Thomas doing when Alexander heard the sound of a plucked string along some of the electrical wires?  
 A. Transmitting multiple messages over a single wire                      B. Starting the Bell Telephone Company  
 C. Transmitting the human voice over a single wire                      D. Reactivating a telephone transmitter
95. What does the word "**transmitted**" mean?  
 A. blocked by stopping                      B. made larger                      C. sent out                      D. disturbed
96. What does the word "**granted**" mean?  
 A. welcomed                      B. loved                      C. issued                      D. started
97. What happened in 1877?  
 A. He started the Bell Telephone Company.                      B. He left the Bell Telephone Company.  
 C. He closed the Bell Telephone Company.                      D. He hired the Bell Telephone Company.
98. He died at the age of \_\_\_\_\_.  
 A. 73                      B. 75                      C. 77                      D. 79
99. What happened on the day of his burial?  
 A. All telephone services in the world were stopped.  
 B. All telephone services in the world were stopped for sixty seconds.  
 C. All telephone services in the US were stopped for one hour.  
 D. All telephone services in the US were stopped for sixty seconds.
100. Which can be the best title for the passage?  
 A. Alexander Graham Bell's life and inventions                      B. The best inventor of all time  
 C. Alexander Graham Bell's inventions                      D. Alexander Graham Bell's experiments