I. Choose the correct answer:　　　　　　　　　　　　　　　7x1=7

1. If the ordered pairs (a+2,4) and (5, 2a+b) are equal then

　(a,b) is _____.

　a) (2,-2)　　　　b) (5,1)　　　c) (2,3)　　　d) (3,-2)

2. $7^{4k} \equiv$ _____(mod 100)

　a) 1　　　　　　b) 2　　　　c) 3　　　　d) 4

3. $\frac{3y-3}{y} \div \frac{7y-7}{3y^2}$ is

　a) $\frac{9y}{7}$　　　　　b) $\frac{9y^3}{(21y-21)}$　　c) $\frac{21y^2-42y+21}{3y^3}$　d) $\frac{7(y^2-2y+1)}{y^2}$

4. The equation of a straight line passing through the point (2,-7)
　and parallel to x-axis is _____.

　a) $x=2$　　　　b) $x=-7$　　c) y=-7　　　d) y=2

5. The y-intercept of the line y=$2x$ is _____.

　a) 1　　　　　　b) 2　　　　c) $\frac{1}{2}$　　　d) 0

6. tanθ cosec²θ - tanθ is equal to _____.

　a) Secθ　　　　b) Cot²θ　　c) Sinθ　　d) Cotθ

7. $f(x)=(x+1)^3 - (x-1)^3$ represents a function which is _____.

　a) linear　　　　b) cubic　　c) reciprocal d) quadratic

II. Answer any five of the following:　　　　　　　　5x2=10

8. Find k if f o f (k) = 5 where f(k)=2k-1

9. Find the sum of 6+13+20+.......+97.

10. Simplify: $\frac{x(x+1)}{x-2} + \frac{x(1-x)}{x-2}$

11. Calculate the slope and y-intercept of the straight line

　$8x$-7y+6=0

12. Find the slope of the line which is perpendicular to the line

　x=-11

13. Prove $\sqrt{\frac{1+sin\theta}{1-sin\theta}}$ = secθ + tanθ

14. Find the equation of a line through the given pair of points
　(2,3) and (-7,-1).

III. Answer any three of the following:　　　　　　　3x5=15

15. Given f(x)=5x+2, g(x)=2x − 3, h(x) = 3x + 1 Verify fo (goh)=
　(fo g) oh.

16. If S_1, S_2,S_3,......S_m are the sums of n terms of m A.P's whose
　first terms are 1,2,3,.......m and whose common difference
　are 1,3,5.......... (2m-1) respectively, then show that
　(S_1,+S_2+S_3 +.......+S_m) = $\frac{1}{2}$ mn (mn+1).

17. Simplify $\frac{1}{x^2-5x+6} + \frac{1}{x^2-3x+2} - \frac{1}{x^2-8x+15}$

18. Prove (sinθ+secθ)²+ (cosθ + cosecθ)²=1+(secθ+cosecθ)²

19. A line makes positive intercepts on coordinate axes whose
　sum is 7 and it passes through (-3,8). Find its equation.

IV. Answer the following:　　　　　　　　　　　　　1x8=8

20. Draw the graph of y=x^2 − 5x − 6 and hence solve

　$x^2 - 5x - 14 = 0$

BIOLOGY (PART-I)
Part - A
I. Choose the correct answer: 5x1=5
1. Avena coleoptile test was conducted by _____.
   a) F.W Went   b) N. Smit   c) Darwin   d) Paal
2. LH is secreted by _____.
   a) Adrenal gland   b) Anterior Pituitary
   c) Thyroid gland   d) Hypothalamus
3. Oestrogen is produced by the _____ of the ovary.
   a) Corpus Luteum   b) Adrenal gland
   c) Graffian follicles   d) Thyroid gland
4. ____causes cell elongation, apical dominance and prevents abscission.
   a) Ethylene   b) ABA   c) Gibberellin d) Auxin
5. _____ causes stomatal closure.
   a) Abscisic acid (ABA)   b) Ethylene c) Auxin   d) Cytokinin
Part - B
II. Answer any five of the following questions: 5x2=10
6. Define Bolting
7. What is Apical dominance?
8. Which hormone is secreted during emergency situation in man?
9. How many whorls are there in a complete (Typical) flower?
   Name them.
10. What are Natural Auxins give example.
11. Write the advantages of self pollination.
12. Draw and label the parts of Thyroid gland.
Part - C
III. Answer any three of the following questions: 3x4=12
13. With a neat labelled diagram describe the parts of a typical
    angiospermic ovule.
14. Write the differences between endocrine and exocrine gland.
15. Write the physiological effects of gibberellins.
16. Write the functions of Adreno Cortical hormones (Gluco
    Corticoids and Mineralo Corticoids)
17. Write any five functions of thyroid hormones.
Part - D
IV. Answer any two in detail: 2x6½=13
18. Where are oestrogens produced? What is the role of
    destrogen in the human body?
19. a) Which hormone is known as stress hormone in plants? Why?
    b) Write the physiological effects of Abscisic Acid.
20. What is pollination. Write the types of pollination and their
    advantages.
21. Sanjay is sitting in the exam hall. Before the start of the
    exam, he sweat a lot, with increased rate of heart beat. Why
    does this condition occur?

ENGLISH (PART-I)
I. Choose the correct synonyms of the underlined words: 2x1=2
   They have faced hardship (i) through their expedition. They
   stopped over at four ports for replenishment (ii) of ration.
   i) a) delight b) happiness   c) relief   d) burden
   ii) a) outside b) content   c) emptiness   d) exteriority
2. Choose the correct antonyms of the underlined words: 2x1=2
   They showcased (i) the little survival skills, based on that
   they were shortlisted (ii).
   i) a) concealed   b) exhibited   c) revealed   d) boosted
   ii) a) final   b) list   c) rejected   d) disapproved
II. Do as directed: 3x1=3
3. I'm really lucky because I don't _____ weight easily.
   (Fill with correct phrasal verb)
   a) work out b) keep up   c) put on   d) tire out
4. Diya resembles her mother. (Choose appropriate phrase that
   gives the meaning of the underlined word)
   a) takes after   b) looks after c) turns after   d) takes off
5. Choose the correct meaning of the given idioms:
   The cat is out of the bag.
   a) Sharp as a tack   b) Put on the deaf ears
   c) The secret is revealed   d) An event happens rarely
III. Answer the following as directed:
6. Read the story and rewrite it using the simple past tense: (3)
   One day a hungry fox sees many bunches of grapes hanging
   from the vines. The fox wants to eat the grapes but they are
   too high for him to reach. He jumps again and again but it is
   all in vain. On returning from the garden, saying that the
   grapes are sour.
7. The following passage has not been edited. There is one error
   in the tense of the verb. Write the wrong well as well as the
   correct word: (3)

	Wrong	Correct
Mithesh has been lived at	_____	_____
Chennai Since 2010. He worked	_____	_____
at MNC company and thought	_____	_____
of move to Trichy.		

8. Quote from Memory: (4)
   From: The summer ....
   To: .... no fear
IV. Read the following lines and answer the questions given
    below: 3x1=3
9. "She's a lioness; don't mess with her
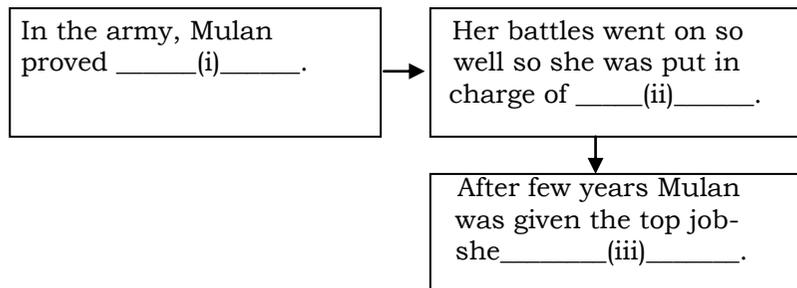   She'll not spare you if you're a prankster.

a) Pick out the line that has a metaphor in it.
b) When will she not spare you?
c) How is woman described here?

V. Answer any two of the following questions in a sentence
   or two: 2x2=4
10. Where did the crew undergo their basic taining?
11. When did they witness the brilliant southern lights
    from the sea? How did the sky appear there?
12. What does the term circumnavigation mean?
13. What sort of training did the crew undergo before their
    expedition?

VI. Answer any one of the questions in a paragraph: 1x4=4
14. a) Highlight the factors responsible for the all-women
       Indian Navy crew to carry out their expedition.
    b) What qualities have made women powerful?
15. Read the given lines carefully and identify the character/
    speaker: 2x1=2
    i) Only so that you could stay safe!"
       a) Mulan   b) Mulan's father
       c) The emperor   d) A soldier
    ii) "She tricked us!"
       a) Mulan's father   b) Mulan
       c) A soldier   d) The emperor
16. Complete the following mind map: 3x1=3

| In the army, Mulan proved _____(i)_____. | → | Her battles went on so well so she was put in charge of _____(ii)_____. |

After few years Mulan was given the top job- she_____(iii)_____.

17. Imagine that you lost your bag in an over crowded train. Write
    a complain to the railway police force regarding this issue.   (3)
18. Recently while returning home from school, you saw the
    accident near the traffic signal. You are Kavin/Kavitha of
    class X. Studying in GHSS, Nagerkoil. Write an article to the
    Hindu, in about 100 words expressing your concern about
    the increasing number of road accidents due to careless
    driving.   (4)

SOCIAL SCIENCE (PART-III)

I. Choose the correct answer: 5x1=5

1. Where did the Ethiopian army defeat the Italian army?
   a) Delville   b) Orange state   c) Adowa   d) Algiers
2. Who Said, "Imperialism is the highest stage of capitalism"?
   a) Lenin   b) Marx   c) Sun Yat-Sen   d) Mao Tsetung
3. With whose conquest did the Mexican Civilization collapse?
   a) Hernan Cortes   b) Francisco Pizarro
   c) Toussaint Louverture   d) Pedro I
4. What is minimum age laid down for a candidate to seek
   election to the Lok Sabha?
   a) 18 years   b) 21 years   c) 25 years   d) 30 years
5. _____ river is known as Sorrow of Bihar.
   a) Narmada   b) Kasi   c) Damodar   d) Godavari

II. Match the following: 5x1=5

1. Article 53   -   River Brahmaputra in Tibet
2. Tsangpo   -   Executive Power of President
3. Dr. Sun yat-Sen   -   South Vietnam
4. Jingoism   -   Kuomintung
5. Ngo Dinh Diem   -   England

III. Fill in the blanks: 3x1=3

1. _____ are known as the "Father of Modern China".
2. _____ Treaty is open to any Arab nation desiring peace
   and security in the region.
3. Japan entered into alliance with England in the year_____.

IV. Distinguish between any one of the following: 1x2=2

1. Himadri and Himachal .
2. Western Ghats and Eastern Ghats.

V. Answer any one of the following: 1x4=4

1. Balkan Wars:
   a) Why was Balkan league formed?

b) What was the outcome of the First Balkan War?

c) Who were defeated in this war?

d) What was the name of the Treaty signed at the end of this Second Balkan War?

2. Cold War:

a) Name the two military blocks that emerged in the post - World War-II.

b) Who coined the term 'Cold War' and who used it first?

c) What was the response of Soviet Russia to the formation of NATO?

d) What was the context in which Warsaw pact was dissolved?

VI. Answer any four of the following in brief: 4x2=8

1. Name the countries in the Triple Entente.

2. What was Marshall plan?

3. Give the Importance of IST

4. Write a short note on Deccan Plateau

5. What is money bill?

6. How is president of India elected?

VII. Answer any two of the following in detail: 2x4=8

1. What are the duties and functions of Prime Minister of India?

(or)

Give an account on the major Peninsular rivers of India.

2. Discuss the main cause of the First World War.

(or)

Attempt an essay on the Arab-Israeli war of 1967 and 1973.

VIII. Make Timeline: (5)

Any five Important events between the year 1900 to 1930