



**National Council of Science Museums**  
Block-GN, Sector-V, Bidhan Nagar  
Kolkata - 700091

**Aptitude Test for the post of Section Officer**

Date: 7.6.2019

Full Marks:-100

Time:- 3 hours

Name of the candidate : \_\_\_\_\_ Signature \_\_\_\_\_

Signature of the invigilator: \_\_\_\_\_

**General Instructions:-**

1. All the questions are compulsory.
2. Put a (√) mark, wherever required, on the correct answer in the question paper itself.
3. There will be no negative marks for wrong answers.
4. Use answer sheets for questions at 'E' & 'F'.

**A. GENERAL AWARENESS:-**

(1X10=10 marks)

1. The Government of India has launched a new scheme for the girl child. What is the name of the scheme?
  - a. Rajlakshmi
  - b. Gajalakshmi
  - c. Dhanalakshmi
  - d. Souvagylakshmi
2. Which of the following does not constitute World Bank?
  - a. International Bank for Reconstruction & Development
  - b. International Finance Corporation
  - c. International Development Association
  - d. International Monetary Fund
3. 'Bolt & Road Initiative' is sometimes mentioned in the news in the content of the affairs of
  - a. African Union
  - b. Brazil
  - c. European Union
  - d. China

4. In which of the following states of India it is legal for a Hindu male and illegal for a Muslim male to have more than one living wife?
- Nagaland
  - Mizoram
  - Goa
  - Arunachal Pradesh
5. The language spoken by the largest number of people of the world is:-
- Hindi
  - English
  - Mandarin
  - Spanish
6. The kelkar proposals which were in the news were the
- Recommendations for reforms in the power sector
  - Recommendations for tax reforms
  - Guidelines for the privatisation of PSUs
  - Guidelines for centre-state relationship
7. Dr. Hargobind Khorana is credited for the discovery of?
- synthesis of proteins
  - synthesis of genes
  - synthesis of nitrogenous bases
  - None of the above
8. For which one of the following Judgements of the Supreme Court of India, the Kesavananda Bharati *vs* State of India case is considered a landmark?
- The religion cannot be mobilised for political ends
  - Abolishing untouchability from the country
  - The basic structures of the Constitution, as defined in the Preamble, cannot be changed
  - Right to life and liberty cannot be suspended under any circumstance
9. Aadhar has huge potential for improving operations and delivery of service. Its potential application in various significant public services delivery and social sector programme is immense. In this context, consider the following statements.
- The UID database can be used for the authentication of beneficiaries under the Public Distribution System
  - It will help in enhancing the efficiency of social audit of programmes
  - It will enable greater commitment towards government financing of public health and primary healthcare.
- Which of the statements given above are correct?*
- 1 and 2
  - 1 and 3
  - 2 and 3
  - All of these



10. Which one of the following statements regarding Bharat Ratna Award is not correct?
- The original specifications for the award called for a circular gold medal, 35 mm in diameter, with the Sun and the Hindi legend 'Bharat Ratna' above and a floral wreath below. The reverse was to carry the state emblem and motto
  - The provision of Bharat Ratna was introduced in 1954
  - Bharat Ratna is awarded to Indian citizens only
  - The first ever Indian to receive this award was the famous scientist, Chandrasekhara Ventkata Raman

**B. REASONING:-** (1X10=10 marks)

11. Consider the series given below:

4/12/95, 1/1/96, 29/1/96, 26/2/96, ..... The next term of the series is

- 24/3/96
  - 25/3/96
  - 26/3/96
  - 27/3/96
12. Seven men A,B,C,D,E,F and G are standing in a queue in that order. Each one is wearing a cap of a different colour like violet, indigo, blue, green, yellow, orange and red. D is able to see in front of him green and blue, but not violet. E can see violet and yellow, but not red. G can see caps of all colours other than orange. If E is wearing an indigo coloured cap, then the colour of the cap worn by F is
- Blue
  - Violet
  - Red
  - orange
13. Mouse is to cat as fly is to:
- rat
  - animal
  - spider
  - horse
14. A,B,C,D,E,F and G are members of a family consisting of 4 adults and 3 children, two of whom, F and G are girls. A and D are brothers and A is a doctor. E is an engineer married to one of the brothers and has two children. B is married to D and G is their child. Who is C?
- G's brother
  - F's father
  - E's father
  - A's son

15. On another planet, the local terminology for earth, water, light, air and sky are 'sky', 'light', 'air', 'water' and 'earth' respectively. If someone is thirsty there, what would he drink?
- (a) Sky
  - (b) Water
  - (c) Air
  - (d) Light
16. In a certain code, MARCH is written as OCTEJ, how is RETURN written in that code?
- (a) TFUVSM
  - (b) QGSTQM
  - (c) TGVWTP
  - (d) TGRVSO
17. There is a family of 6 persons A,B,C,D,E and F. There are two married couples in the family. The family members are lawyer, teacher, salesman, engineer, accountant and doctor. D, the salesman is married to the lady teacher. The doctor is married to the lawyer. F, the accountant is the son of B and brother of E. C, the lawyer is the daughter-in-law of A. E is the unmarried engineer. A is the grandmother of F. How is E related to F?
- (a) Brother
  - (b) Sister
  - (c) Father
  - (d) Cannot be established (cannot be determined)
18. Four political parties W,X,Y and Z decided to set up a joint candidate for the coming parliamentary elections. The formula agreed by them was the acceptance of a candidate by most of the parties. Four aspiring candidates, A,B,C and D approached the parties for their tickets.
- A was acceptable to W but not to Z  
B was acceptable to Y but not to X  
C was acceptable to W and Y  
D was acceptable to W and X
- When candidate B was preferred by W and Z, candidate C was preferred by X and Z, and candidate A was acceptable to X but not to Y; who got the ticket?
- (a) A
  - (b) B
  - (c) C
  - (d) D



19. Given the statement: "Buses are the cause of more accidents than cars, and trucks cause fewer accidents than buses", which of the following conclusions can we draw?

- (a) There are more buses on the road than trucks.
- (b) Car drivers are more careful than bus drivers.
- (c) Truck drivers are more skilled than either car or bus drivers.
- (d) None of the above

20. In a parking area, the total number of wheels of all the cars (four-wheelers) and scooters/motorbikes (two-wheelers) is 100 more than twice the number of parked vehicles. The number of cars parked is

- (a) 35
- (b) 45
- (c) 50
- (d) 55

Category	Wheels	Count
Cars (4-wheelers)	4	35
Scooters/Motorbikes (2-wheelers)	2	45
Total	2	100

**C. QUANTITATIVE APTITUDE**

(1X20=20 marks)

21. A gardener plants 17956 trees in such a way that there are as many rows as there are trees in a row. The number of trees in a row are

- (a) 136
- (b) 164
- (c) 134
- (d) 166

22. The daily wages of a worker increase by 20% but the number of hours worked by him also dropped by 20%. If originally he was getting ₹200 per week, his wages per week now is

- (a) ₹160
- (b) ₹192
- (c) ₹210
- (d) ₹198

23. The difference of 13% per annum and 12% of a sum in 1 year is ₹110. Then, the sum is

- (a) ₹12000
- (b) ₹13000
- (c) ₹11000
- (d) ₹16000

24. A man bought a number of oranges at 3 for a rupee and an equal number at 2 for a rupee. At what price per dozen should he sell them to make a profit of 20%?

- (a) ₹4
- (b) ₹5
- (c) ₹6
- (d) ₹7

25. The wages of labourers in a factory has increased in the ratio 22:225 and their number decreased in the ratio 3:2. What was the original wage bill of the factory, if the present bill is ₹5000?
- (a) ₹4000  
 (b) ₹6000  
 (c) ₹8000  
 (d) None of these

**Directions (Q.26-30):** There are five Museums and we have been given the number of employees working in different Museums. In the table we have also been given the percentage of male and female employees in Scientific and Technical cadre.

Museum	Employees	Scientific		Technical	
		Male	Female	Male	Female
P	400	12	14	9	7
Q	650	19	10	11	13
R	500	28	14	4	7
S	550	31	9	6	4
T	300	12	18	3	7

26. If 60% of the employees of Museum T in Scientific cadre have Engineering degree and 40% of the employees of the same Museum in the Technical cadre have Diploma, then how many employees have Engineering degree in Museum T in both cadres together?
- (a) 98  
 (b) 108  
 (c) 306  
 (d) 66
27. What is the ratio of the number of female employees of Museum Q in Scientific cadre to the number of male employees of Museum R in Technical cadre?
- (a) 4:13  
 (b) 5:22  
 (c) 22:5  
 (d) 13:4
28. The total number of Scientific employees of Museum P is what per cent more than the total number of Technical employees of Museum T?
- (a) 236.76%  
 (b) 226.67%  
 (c) 276.76%  
 (d) 246.67%
29. What is the ratio of the male employees in Scientific cadre of Museum P and R together to the female employees of Technical cadre in Museum S and T together?
- (a) 187:27  
 (b) 43:188  
 (c) 188:43  
 (d) 27:187



30. What is the difference between the number of female employees of Scientific cadre in all Museums together (excluding Museum S) and the female employees of Technical cadre in all Museums together (excluding Museum Q)?
- 139
  - 129
  - 135
  - None of these
31. A mixture contains wine and water in the ratio of 3:2 and another mixture contains them in the ratio of 4:5. How many litres of the latter must be mixed with 3 litres of the former so that the resultant mixture may contain equal quantities of wine and water?
- $12/3$  litres
  - $2/5$  litres
  - $3\frac{3}{4}$  litres
  - None of these
32. A trader sells two bullocks for ₹8400 each, neither losing nor gaining in total. If he sold one of the bullocks at a gain of 20%, the other is sold at a loss of
- 20%
  - $18\frac{2}{9}\%$
  - $14\frac{2}{7}\%$
  - 21%
33. Two trains, A and B, start from stations X and Y towards each other. They take 4 hours 48 minutes and 3 hours 20 minutes to reach Y and X respectively after they meet. If train A is moving at 45 km/hr, then the speed of train B is
- 60 km/hr
  - 54 km/hr
  - 37.5 km/hr
  - None of these
34. Out of his total income, Mr. Kapoor spends 20% on house rent and 70% of the rest on household expenses. If he saves ₹1800 what is his total income ( in rupees)?
- ₹7800
  - ₹7000
  - ₹8000
  - ₹7500
35. A can do a piece of work in 8 days which B can destroy in 3 days. A has worked for 6 days, during the last 2 days of which B has been destroying. How many days must A now work alone complete the work?
- $7\frac{2}{3}$  days
  - $7\frac{1}{3}$  days
  - 8 days
  - None of these

**Directors (Q.36-40): What will come in place of question mark(?) in the given number series?**

36. 476      472      462      434      352      ?

- (a) 192
- (b) 164
- (c) 108
- (d) 112

37. 45000                      1800                      90      6      0.6      ?

- (a) 0.012
- (b) 0.12
- (c) 1.2
- (d) 0.024

38. 9              8              14              39              152      ?

- (a) 755
- (b) 628
- (c) 772
- (d) 720

39. 192              108      64              40              26              ?

- (a) 21
- (b) 17
- (c) 19
- (d) 15

40. 188              7              9.5              18              ?

- (a) 50.5
- (b) 46
- (c) 48.25
- (d) 44

**D. COMPREHENSION**

(2X10=20 marks)

Read the following passage carefully and answer the given questions. Your answers to these questions should be based on the passage only.

In general, before the financial crisis of 2008, the financial sector the world over had been steadily liberalising. Limits on foreign ownership of banks and on the kinds of transactions they were able to engage in were being lifted. Rich countries were deregulating faster than others. Banks were given greater leeway on how much capital they should hold and how much risk they should take. But banks world over did not maintain adequate capital cushions and balance sheets showed inflated profits. In 1999, America also repealed the Glass-Steagall Act—a 1920s Depression-era law separating investment and commercial banking – without bothering about the threat to the economy.



'Restrictions are a sign of backwardness' – the resulting crisis of 2008 put an end to this belief. Banking supervisors in many developing countries said that tight regulations saved them from getting into trouble. Under the old rules, supervisors were simply referees trying to ensure that the game was played fairly. Now regulators have gone from saying 'tell me that all your payment system work' to saying 'show me how your payment systems work'. Regulators are now tentatively stepping over a long-standing divide between enforcing basic rules and playing a part in business decisions. This shift is particularly marked in Britain, which once championed 'light touch' regulation. The pre-crisis behaviour is being criticised as surrender to banks or as a self-serving device for attracting financial activity to Britain. In truth it was neither. It was the simple belief that markets are better than governments at allocating services. In America, too, regulators were reluctant to suppress innovation because they felt that "the self-interest of lending institutions" would be enough to ensure they did not all leap from the same tall building.

In rich countries, enthusiasm for prescriptive supervision depends on the degree of harm suffered during the banking crisis, or on the threat from the failing banks to bring down their governments with them.

But it is not easy to stop banks from making bad decisions. In the past, regulators left it to the market to judge the health of the banks. But clever, well-paid analysts failed to see the crisis coming. Now central bankers are expected to do a better job.

One problem is that rules and laws are written with the benefit of hindsight. The good ideas that may have prevented the last crisis, however, can make regulators dangerously overconfident about being able to predict and prevent the next one. Also, if regulators underwrite certain strategies that seem safe, such as lending to small business, they may encourage banks to crowd into those lines of business. If enough banks pile into these markets, downturns in them can affect not just a few banks but the whole system.

On the other hand, prescriptive supervision can stifle financial innovation and squeeze all appetite for risk out of the banking system. In Japan, a banking crisis that started more than two decades ago still lingers on, in part because the country's bankers have become gun-shy and tend to buy government bonds rather than lend money or make foreign investments.

Regulators are doing all they can to strike a balance and mitigate these risks.

1. Which of the following is the central idea of the passage?

- 1) Regulators are lazy and shirk their duty of protecting financial systems.
- 2) Banks should go back to traditional banking and abandon riskier options.
- 3) Banks in developed countries have destroyed developing economies.
- 4) Today the task of financial regulation is tricky.
- 5) Financial systems have been damaged beyond repair.



2. Which of the following is/are the possible impact(s) of prescriptive supervision?

- (A) Governments are likely to collapse as people are opposed to such measures.
- (B) Many executives are likely to exploit the system.
- (C) These measures could unintentionally prolong a crisis.

- 1) Only (C)
- 2) Only (B) and (C)
- 3) Only (A) & (B)
- 4) All (A), (B) and (C)
- 5) Only (B)

3. What is the author's view of central banks' present efforts at regulation?

- 1) These are unnecessary and harmful to banks.
- 2) These are faulty as they encourage risky financial innovations.
- 3) To succeed these should be co-ordinated and uniform across countries.
- 4) The measures they prescribe have no loopholes.
- 5) They have done their best to effectively regulate.

4. Which of the following can be said about 'light touch regulation' adopted by Britain?

- 1) It gave Britain's financial institutions very little autonomy.
- 2) It forced banks to invest in government bonds.
- 3) It resulted in banks holding too much capital.
- 4) It encouraged financial activity in the country.
- 5) It stifled banks' appetite for risk.

5. Which of the following is TRUE in the context of the passage?

- 1) The financial crisis of 2008 did not impact developing countries.
- 2) Markets can easily regulate themselves.
- 3) Developing economies should not allow foreign investment at present.
- 4) After the crisis, America's central bank has imposed unnecessary regulations.
- 5) None of the given statements is true in the context of the passage.

6. Why has the author cited the reference of repealing the Glass-Steagall Act?

- 1) To indicate that regulations were relaxed without appreciating the impact on the economy.
- 2) To criticise the backward restrictions that rich countries imposed on developing countries.
- 3) To show that the economy had not progressed much since the Depression.
- 4) To illustrate that only America could foresee the financial crisis.
- 5) To indicate the soundness of America's financial system prior to depression.



7. Which of the following difficulties is faced by regulators at present?
- 1) Banks lack the expertise to comply with norms.
  - 2) Tremendous competition between local and foreign banks.
  - 3) Striking a balance between protecting and stifling the economy.
  - 4) Unwillingness of government to bail out failing banks.
  - 5) Lack of adequate manpower.
8. Which of the following approaches was adopted by the financial sector of rich world economies prior to the crisis?
- 1) Banks strictly adhered to outdated laws.
  - 2) Banks maintained very large capital cushions.
  - 3) They were innovative and took a lot of risks.
  - 4) They withdrew investment from traditional banking.
  - 5) Not clearly mentioned in the passage.
9. Choose the word which is most nearly the SAME in meaning as the word 'CROWED' given in the passage.
- 1) multitude
  - 2) flock
  - 3) party
  - 4) crew
  - 5) not
10. Choose the word which is most nearly the OPPOSITE in the meaning to the word 'FAILING' given in the passage.
- 1) increasing
  - 2) passing
  - 3) successful
  - 4) depleting
  - 5) important

**E. PRECIS WRITING**

(1X20=20 marks)

Make a precis of the following passage in about one third of its length and suggest a suitable title:-

Democracy, which postulates enlightenment, is, by and large, a blessing and illiteracy, which implies ignorance, is therefore, a menace. How can the two co-exist? Democracy assumes that there is a high degree of political consciousness, a fair degree of education and intelligence, a continuous interest in public affairs, and a full, abiding realization of the duties and responsibilities of true citizenship. For all these qualities, literacy is indispensable; where there is illiteracy, the basic conditions for the success of a democratic set-up do not exist.

Again, democracy is Government by discussion, response and consent. Where there is no discussion, no free exchange of views, and no freedom of expression which enables uninhibited exchange of views, there cannot be real democracy. These factors also presume the existence of literacy; how can there be discussion, debate and a free exchange of views on public affairs when the people are not literate and do not possess the basic qualifications, as well as a fair standard of intelligence which come with literacy and education?

There cannot be any democracy where there is no education, though there can be education – even a high degree of it – even where there is no democracy, as in countries where there is dictatorship, arbitrary and authoritarian rule.

Dissent there always will be wherever there is a sizeable society comprising people of different shades of opinion, having different approaches to life and sharp inequalities – social, economic or political. Democracy assumes that the people are fully aware of the value of dissent and differences of opinion, and they also know that all forms of non-violent dissent should be tolerated in a democratic order. Tolerance of others' opinions is essential in a democracy, while dogmatism, suppression of dissent and intolerance cannot be allowed in a democracy.

Democracy can flourish only in a society where there is equality in law and where discriminations on various grounds such as sex, religion, caste and economic status are illegal. Fundamental rights are exercisable where there is a full sense of responsibility, because absolute freedom of action or expression is absolute nonsense. So there must be reciprocity, for which also there should be an educational background, that is, a fairly high standard of literacy. (367 words)

## **F. PARAGRAPH WRITING**

(1X20=20 marks)

Write a paragraph in about 350 words on any one of the following topics:-

- (1) Food security, a prerequisite for national development.
- (2) Justice must reach the poorest of the poor.
- (3) Transparency in public administration.
- (4) Real value of education.

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