विषय : सामान्य अभिशंकि एवं आत्मार शास्त्र
विषय कोड : 07

Subject : GENERAL APTITUDE AND ETHICS
Subject Code : 07
Part – 1 / भाग – 1

Marks – 30 / अंक – 30

Note: इस भाग में कुल 15 प्रश्न हैं। सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न के लिए 02 अंक विध्याला हैं।

Note: There are 15 questions in this part. All questions are compulsory. Each question carries 02 marks.

1. यदि FINANCE = 39, MARKETING = 52, तब PRODUCTION = ?
   If FINANCE = 39, MARKETING = 52, then PRODUCTION = ?

2. संख्या 0.01, संख्या 0.1 की कितनी प्रतिशत है?
   The number 0.01, is what percent of number 0.1?

3. यदि 9x + 2 > 7x – 2, जहाँ x एक प्राकृतिक संख्या है, के हल का समुच्चय A हो, तो A ज्ञात कीजिए।
   If A is the solution set of 9x + 2 > 7x – 2, where x is a natural number, then find A.

4. यदि एक त्रिभुज के केन्द्रक के निर्देशांक (3, 2) और दो शीर्षों के निर्देशांक (1, 1) और (2, 5) हों, तो तीसरे शीर्ष के निर्देशांक ज्ञात कीजिए।
   If the co-ordinates of the centroid of a triangle are (3, 2) and co-ordinates of the two vertices are (1, 1) and (2, 5), then find the co-ordinates of the third vertex.

5. अनीता एक संख्या सोचती है और उसमें से $\frac{5}{2}$ घटा देती है। इस तरह प्राप्त संख्या को वह 8 से गुणा कर देती है। उत्तर में प्राप्त संख्या उसके द्वारा सोची संख्या का 3 गुणा है। सोची गई संख्या क्या है?
   Anita thinks of a number and subtracts $\frac{5}{2}$ from it. She multiples this result by 8. The resulting number so obtained is 3 times of the original thought number. What is the number thought by her?

6. दो संख्याओं का योग 40 एवं उनमें अंतर 4 है। दोनों संख्याओं का अनुपात ज्ञात कीजिए।
   Sum of two numbers is 40 and their difference is 4. Find the ratio of the two numbers.

7. एक स्कूल के कुल 350 विद्यार्थियों का $\frac{3}{7}$ लड़कियाँ हैं तथा $\frac{2}{5}$ लड़कियाँ क्रिकेट खेलती हैं, कितनी लड़कियाँ क्रिकेट नहीं खेलती हैं?
   $\frac{3}{7}$ of the total of 350 students of a school are girls and $\frac{2}{5}$ of the girls play cricket. How many girls do not play cricket?

8. तीन सिक्के उछाले गये। ना 3 चित ना ही 3 पट आने की प्रायिकता क्या है?
   Three coins are tossed. What is the probability of getting neither 3 heads nor 3 tails?
9. A rectangular sheet of card-board has length and breadth as 4 cm and 2 cm respectively. The largest possible circle is cut from this sheet. Find the area of the remaining portion of the sheet.

10. Explain ‘Intuition’ as source of Ethical guide.

11. ‘द रिपब्लिक’ के रचयिता कौन हैं ? इस पुस्तक की मुख्य विषय-बस्तु क्या है ?

12. क्या सूचना प्रदान करणा ‘लोक हित’ पूरा करता है ? इसे प्रजातंत्र का महत्वपूर्ण लक्षण क्यों माना जाता है ?

13. भ्रष्टाचार सकारात्मक शासन-व्यवस्था के मूल उद्देश्यों को कैसे आहत करता है ?

14. लोक-सेवा में असकत वर्गों के प्रति संवेदना की क्यों आवश्यकता है ?

15. ‘विहिलिन-व्लोअर’ से आप क्या समझते हैं ? ‘विहिलिन व्लोअर’ के प्रमुख कार्य क्या है ?

Part – 2 / भाग – 2

Marks – 50 / अंक – 50

Note: There are 10 questions in this part. All questions are compulsory. Each question carries 05 marks.

16. What do you understand by ‘Whistle-blower’? What are the main functions of ‘Whistle-blower’?

17. What is ‘Attitude’? Explain changes in Attitude.
18. What is importance of rules and regulations for good governance?

19. Explain Gandhi’s concept of Satyagraha. Do you think that Gandhi adopted it only as a political strategy since India was not in a position to fight the mighty British Empire?

20. Calculate geometric mean of the numbers 3, 6, 24 and 48.

21. In a legislative assembly, the ratio of the members of the ruling party to the members of the opposition party was 7 : 3. Eighteen members of the ruling party left their party and joined the opposition party making this ratio to 3 : 2. Find the total number of members in the assembly.

22. The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. Find the rate of interest per annum.

23. Find the value of \( \frac{5\sqrt{3} - 3\sqrt{12} + 2\sqrt{75}}{2 + \sqrt{3}} \) in the form of \( a + b\sqrt{3} \), where \( a \) and \( b \) are rational numbers.

24. Calculate the average speed of a car running at the rate of 20 km/hour during the first 30 kms, at 25 km/hour during the next 30 kms and at 30 km/hour during the last 30 kms.

25. The length of the minute hand of a clock is 14 cms. Find the area covered by it in 5 minutes.
Part – 3 / भाग – 3

Marks – 40 / अंक – 40

Note: This paper contains 07 questions in this part in 02 sections. It is compulsory to answer any three questions out of four selected from Section-1 and any two questions out of three selected from Section-2. Each question carries 08 marks.

Section-1 / खण्ड-1

General Aptitude / सामान्य अभिलेख

26. 60 विद्यार्थियों के एक समूह में 25 विद्यार्थी क्रिकेट, 30 विद्यार्थी फुटबॉल और 24 विद्यार्थी हॉकी खेलते हैं। जबकि 10 विद्यार्थी क्रिकेट और फुटबॉल दोनों, 9 विद्यार्थी क्रिकेट और हॉकी दोनों, 12 विद्यार्थी हॉकी और फुटबॉल दोनों तथा 5 विद्यार्थी तीनों ही खेलें हैं। वैन आरेंज का उपयोग करते हुए ज्ञात कीजिए कि कितने विद्यार्थी केवल एक ही खेल खेलते हैं।

Out of a group of 60 students, 25 students play cricket, 30 students play football and 24 students play hockey while 10 students play cricket and football, 9 students play cricket and hockey, 12 students play hockey and football and 5 students play all the three games. Using Venn-diagram, find the number of students who play only one game.

27. एक व्यक्ति अपने धन का 12.5% खो देता है तथा शेष के 60% को व्यय कर देता है। कुल धन का जितना भाग अब उसके पास बचा है, यदि इस बचे हुए धन को वह 8% साधारण ब्याज की वार्षिक दर से बैंक में 2 वर्ष के लिए जमा कर देता है तो उसे 2 वर्ष बाद ₹ 2030 मिलते हैं। व्यक्ति के पास प्रारंभ में कुल कितना धन था?

A person loses 12.5% of his money and spends 60% of the remaining money. The part of his total money, now left with him, if he deposits this left over money in a bank for 2 years at 8% annual simple rate of interest, he gets ₹ 2,030 after 2 years. What was the total initial money with the person?

28. एक आयत की लम्बाई अगर 5 मीटर कम कर दी जाये और उसकी चौड़ाई 3 मीटर बढ़ा दी जाये तो उसका क्षेत्रफल 9 वर्गमीटर कम हो जाता है और अगर उसकी लम्बाई 3 मीटर बढ़ा दी जाये एवं चौड़ाई भी 2 मीटर बढ़ा दी जाये तो उसका क्षेत्रफल 67 वर्गमीटर बढ़ जाता है। आयत की लम्बाई व चौड़ाई ज्ञात कीजिए।

The area of a rectangle gets reduced by 9 sq. metre, if its length is reduced by 5 metres and breadth is increased by 3 metres and if its length is increased by 3 metres and breadth is increased by 2 metres, its area increases by 67 sq. metre. Find the length and breadth of the rectangle.
### Section-2

#### Ethics / आचारशास्त्र

29. निम्लिखित ऑक्शनों से माध्यिका ज्ञात कीजिए:

<table>
<thead>
<tr>
<th>वर्ग अंतराल</th>
<th>बाराम्बारता</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 10</td>
<td>15</td>
</tr>
<tr>
<td>10 - 20</td>
<td>18</td>
</tr>
<tr>
<td>20 - 30</td>
<td>20</td>
</tr>
<tr>
<td>30 - 40</td>
<td>14</td>
</tr>
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<td>40 - 50</td>
<td>25</td>
</tr>
<tr>
<td>50 - 60</td>
<td>40</td>
</tr>
</tbody>
</table>

Find the median from the following data:

<table>
<thead>
<tr>
<th>Class Interval</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 10</td>
<td>15</td>
</tr>
<tr>
<td>10 - 20</td>
<td>18</td>
</tr>
<tr>
<td>20 - 30</td>
<td>20</td>
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<tr>
<td>30 - 40</td>
<td>14</td>
</tr>
<tr>
<td>40 - 50</td>
<td>25</td>
</tr>
<tr>
<td>50 - 60</td>
<td>40</td>
</tr>
</tbody>
</table>

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30. **भारतीय समाज के उत्थान में महार्षि दयानन्द सरस्वती के योगदान का उल्लेख कीजिए।**

[उत्तर सीमा: 125 शब्द]

Point out main contributions of Maharshi Dayanand Saraswati in the upliftment of Indian society.

[Answer Limit: 125 words]

31. **भ्रष्टाचार के न्यूनीकरण के उपायों का उल्लेख कीजिए।**

[उत्तर सीमा: 125 शब्द]

Point out the measures to minimize corruption.

[Answer Limit: 125 words]

32. **सामाजिक जीवन के नैतिक मूल्यों की व्याख्या कीजिए।**

[उत्तर सीमा: 125 शब्द]

Explain the moral values of social life.

[Answer Limit: 125 words]
Part - 4 / भाग - 4

Marks – 80 / अंक – 80

Note: There are 07 questions in this part in 2 sections. It is compulsory to answer any three questions out of four selected from Section-1 and any two questions out of three selected from Section-2. Each question carries 16 marks.

Section-1 / खण्ड – 1

General Aptitude / सामान्य अभिशाप

33. A medicine capsule is in the shape of a cylinder with two hemispheres stuck to each of its end. The length of the entire capsule is 14 mm and the diameter is 5 mm. Find its volume and surface area. If the cost of covering capsule with sweat edible coating is ₹ 5 per 100 mm² then what will be the total cost of manufacturing of 500 such capsules.

34. एक दुकानदार, क्रेता को एक ही कोट पर दो विकल्प देता है।
   (i) कोट की ₹ 5,500 मूल्य पर 15%, 10% व 5% की तीन क्रमागत छूट।
   (ii) कोट की ₹ 6,000 मूल्य पर 18%, 15% व 6% की तीन क्रमागत छूट। क्रेता को कौन सा विकल्प लाभकारी है?

A shopkeeper gives two options to the buyer of the same coat,
(i) on coat’s price of ₹ 5,500, three consecutive discounts of 15%, 10% and 5%.
(ii) on coat’s price of ₹ 6,000, three consecutive discounts of 18%, 15% and 6%.
Which option will be beneficial for the buyer?

35. निम्न दो आबृति बंटनों के लिए, पहले का माध्य 25.4 तथा दूसरे का 32.5 निकाला गया है। x और y का मान ज्ञात कीजिए।

<table>
<thead>
<tr>
<th>वर्ग</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
<th>40-50</th>
<th>50-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>आबृति I</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>x</td>
<td>y</td>
</tr>
<tr>
<td>आबृति II</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>2x</td>
<td>y</td>
</tr>
</tbody>
</table>

For the following two frequency distributions, the mean calculated for the first was 25.4 and that of the second was 32.5. Find the values of x and y.
भाग-(1) : A, B और C एक कार्य को अकेले क्रमशः 6, 8 और 12 दिन में पूरा कर सकते हैं। यदि वे तीनों एक साथ मिलकर इस कार्य को पूरा करने पर कुल ₹ 23,400 कमाते हैं तो इस कमाई में C का हिस्सा कितना होगा?

भाग-(2) : 20 प्रतिशत मिथाईल एल्कोहॉल के घोल को 50 प्रतिशत मिथाईल एल्कोहॉल के घोल में किस अनुपात में मिलाना चाहिए ताकि परिणामी घोल में मिथाईल एल्कोहॉल 40 प्रतिशत हो जाये?

Part-(1) : A, B and C each of them working alone can complete a job in 6, 8 and 12 days respectively. If all three of them work together to complete the said job, they earn ₹ 23,400. Determine the share of C in their earnings.

Part-(2) : In what ratio should a 20% methyl alcohol solution be mixed with a 50% methyl alcohol so that the resulting solution has 40% methyl alcohol?

Section-2 / खण्ड -2

Ethics / आचारशाखा

37. विभिन्न विचारधाराओं के द्वारा बर्णित सिविल सेवा के अनिवार्य नैतिक मूल्यों की व्याख्या कीजिए।

[उत्तर सीमा : 250 शब्द]

Explain the essential moral values of civil service as described by different school of thoughts. [Answer Limit : 250 words]
38. Study the following case carefully and answer the questions that follow:

Swati, a police officer in a control room, reaches a scene of a bad accident. Two young persons, a boy and a girl, are badly hurt. They need immediate first aid or their injuries will prove fatal. No other police patrol or ambulance can reach the site immediately. Swati has good paramedical training because of her background. She assesses that the condition of the girl is such that the probability of her single handed effort succeeding is slim. To whom should she attend first? This is an agonizing dilemma for her.

Question: How will you evaluate the problem?

1. Swati should toss a coin and decide whom to help.
2. Swati should help the boy first.
3. Swati should help the boy as a boy always has priority in Indian society.
4. There is no acceptable solution to the problem. [Answer Limit: 250 words]
Study the following case carefully and answer the questions that follow:

Suresh started a business from scratch, and ended up as substantial owner of a mid sized engineering company. The position of technical director in the company fell vacant when its incumbent resigned to take up another assignment. To the surprise of the board, Suresh proposed that his young son Ramlal should be made a technical director. One director openly expressed his opposition to the proposal and doubted Ramlal’s credentials. Suresh replied that his son has studied engineering in Remote Westbrook Technical University. In reply to the member’s question, he added that Remote Westbrook Technical University is an accredited university in New Mexico. Ramlal, he added also took training in some workshops near Detroit. When there was further opposition, he pleaded that his health was poor and that he would like someone from his family to take reins if he were to become too ill. Ramlal, he added, would be elected a member on the strength of his shareholding.

**Question:** Assume that you have been the secretary of the company for many years and have the ears of Suresh. What would be your advice to Suresh?

1. You would advise Suresh that such opposition from independent Directors is routine in corporate life. Suresh should not change his position.
2. Your advice would be that Ramlal should start at the shop floor and then gradually take up higher responsibility.
3. The company should appoint an elderly technocrat with management experience who is nearing retirement and he should be appointed with specific mission to groom Ramlal.
4. You should stay away because in family matters people do not pay heed to reason.  

**[Answer Limit : 250 words]**