Home Assignment
for SSC & Railways Aspirants

1. UN Climate Change Summit, 2019 was held in which of the following cities?
A. New York   B. Tokyo
C. Pyongyang   D. Paris
E. Toronto
Ans. A
Sol.
• On 23rd September the UN Climate Change Summit, 2019 was held in General Assembly Hall at UN Headquarters in New York.
• UN Secretary-General Antonio Guterres called on world leaders to bring forth their concrete plans, and ambitious actions to solve the climate crisis.
• The key focus of the summit is to accelerate the actions to implement the Paris agreement.
• Prime Minister Narendra Modi represented India's body of work at UN Climate Action Summit.

2. Which state has become the first state in the country to issue the highest number of golden cards under Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)?
A. Uttar Pradesh
B. Haryana
C. Himachal Pradesh
D. Jammu and Kashmir
E. Odisha
Ans. D
Sol.
• Jammu and Kashmir became the first state in the country to issue the highest number of golden cards under Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
• According to the Chief Executive Officer, State Health Agency, Bhupinder Kumar - over 11 lakh golden cards have been generated within the first 90 days of the launch of the scheme with 60% of families having at least one golden card which is highest in the country.
• On 23rd September Ayushman Bharat - the Pradhan Mantri Jan Arogya Yojana has completed one year of its launch.
Note:
• On 23rd September 2018, Prime Minister Narendra Modi had launched the scheme from Ranchi, Jharkhand.

• The scheme is renamed as PM Jan Arogya Yojana.
• The Pradhan Mantri Jan Arogya Yojana, popularly known as Ayushman Bharat, looks to provide cashless hospitalisation for 1,354 procedures to 10 crore poor families for Rs 5 lakh per family per year.

3. The World Maritime Day 2019 was observed on which date?
A. 24th September   B. 25th September
C. 26th September   D. 27th September
E. 28th September
Ans. C
Sol.
• The **World Maritime Day** (WMD) is being observed on **26th September 2019** (last Thursday of September).
• 2019 Theme: '**Empowering women in the maritime community**'.
• **This year's theme provides** an opportunity to raise awareness of the importance of gender equality, in line with the United Nations' Sustainable Development Goals (SDGs), and to highlight the important - yet under-utilized - contribution of women within the maritime sector.
• The **National Maritime Day 2019** was observed on 5th April 2019.

4. According to the IMD World Competitiveness Center's World Digital Competitiveness Ranking 2019, what is India's rank?
A. 50th   B. 48th
C. 46th   D. 44th
E. 40th
Ans. D
Sol.
• India has been ranked at **44th positions** in the World Digital competitiveness rankings 2019.
• As compared to the previous year's ranking, India improved its ranking from 48th place in 2018 to 44th rank this year as the country has improved overall in all factors like - knowledge, technology and future-readiness.
• The **US was ranked as the world's most digitally** competitive economy, followed by **Singapore** in the second place.

• The World Digital competitiveness ranking is published by the IMD World Competitiveness Center.
• It measures the capacity and readiness of 63 nations to adopt and explore digital technologies as a key driver for economic transformation in business, government and wider society.

5. Who among the following has been awarded the SASTRA Ramanujan Prize for 2019?
A. Winfried Kohnen
B. Michael Schlosser
C. Anand Kumar
D. Colson Whitehead
E. Adam Harper
Ans. E
Sol.
• The SASTRA Ramanujan Prize for 2019 will be awarded to mathematician Adam Harper (Assistant Professor with the University of Warwick, England.
• Mr. Harper was awarded the prize for several outstanding contributions to analytic and probabilistic number theory.
• The prize carries a citation and an award of USD 10,00 and is conferred annually on mathematicians from across the world who are less than 32 years of age, working in an area influenced by the genius Srinivasa Ramanujan.
• Every year, this prize is awarded by SASTRA University on its campus near Kumbakonam in Tamil Nadu, on Ramanujan's birth anniversary (22nd December).

6. Who among the following has been selected as the "goodwill ambassador" by the Chief Electoral Officer (CEO) in Maharashtra to create awareness among people about the importance of voting?
A. Karishma Kapoor   B. Kareena Kapoor
C. Katrina Kaif   D. Vidhya Balan
E. Madhuri Dixit
Ans. E
Sol.
• Actor **Madhuri Dixit** has been chosen as "**goodwill ambassador**" by the **Chief Electoral Officer** (CEO) in Maharashtra to **create awareness among people** about the importance of voting.

• **Madhuri Dixit** will be seen in a video titled '**Let's Vote'** speaking about the **democratic process** and role of voters in the development of the country.
• **Maharashtra State Assembly polls** are scheduled for **21st October** and results will be declared on **24th October 2019**.
• A **goodwill ambassado**r is a person who advocates for a specific cause (country or organisation) based on their notability.
• Goodwill ambassadors generally deliver goodwill or promote ideals from one entity to another, or to a population.

7. Which of the following footballers has won the FIFA's best male player of the year award 2019 at La Scala in Milan, Italy?
A. Virgil van Dijk   B. Lionel Messi
C. Cristiano Ronaldo D. Mohamed Salah
E. Sergio Aguero
Ans. B
Sol.
• Argentine footballer Lionel Messi (32-years) won the FIFA's best male player of the year award 2019 at La Scala in Milan, Italy.
• Messi beats Virgil van Dijk and Cristiano Ronaldo to win the Best Men's Player award.
• Lionel Messi has won this award for the record sixth time (earlier,2009, 2010, 2011, 2012 & 2015).
• American footballer Megan Rapinoe has won the Best FIFA Football Women's Player award 2019.
• Rapinoe beat Alex Morgan and Lucy Bronze to win The Best Women's Player award.
• Jurgen Klopp (Germany) has won the best FIFA men's coach award.
• Daniel Zsori (Hungarian-Romanian) received FIFA's Puskas award.

8. There is group of 8 teachers. One teacher leaves the group and a new teacher joins the group. Due to this, the average age of teachers becomes same as the average 2 years ago. If the member who left was aged 42. Then what is the age (in years) of new teacher?

A. 22   B. 28
C. 24   D. 26
Ans. D
Sol. Let the average age of teachers be x
Average age two years ago =x-2
Age of teacher who left the group is 42
So difference between age of teacher who left and age of teacher who join=8x-8(x-2)=16
So age of new teacher=42-16=26

9. A spherical ball of radius 3 cm is melted and recast into three spherical balls of radius 1.5 cm and 2 cm and X cm. Find the value of X.
A. 5 cm   B. 2.5 cm
C. 3 cm   D. 2.25 cm
Ans. B
Sol.
Volume of sphere= 4/3 πr³
Given, radius of original ball=3 cm
Its volume= 4/3 π(3)³
Since it is melted and re-casted into 3 smaller spheres,
So, Volume of original ball=total volume of 3 small balls
⇒ 4/3 π r³=4/3 π(1.5)³+4/3 π (2)³+4/3 π (x)³
⇒ 27=1.5³+2³+x³
⇒ X=2.5
Hence, radius of third ball x=2.5 cm.

10. Circumference of the base of a 9 m high conical tent is 44 m. Find the vol of air contained in it.
A. 430 cm³   B. 462 cm³
C. 472 cm³   D. 492 cm³
Ans. B
Sol.
Given, circumference of the base=44 m
Circumference of a cone=2 π r
⇒ 2 π r=44 m
⇒ R=7 m
Height of cone given=9m
Volume of a cone=1/3 π r²h
⇒ 1/3*22/7*9*7*7
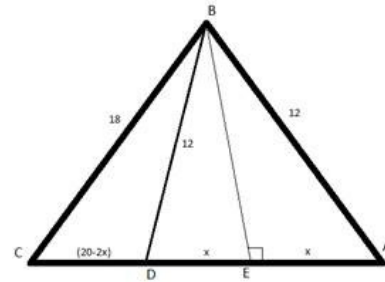⇒ 462m³

11. In triangle ABC the length of the sides AB, BC and AC are 12, 18 and 20 units, respectively. D is a point on AC such that AB=DB. The value of the ratio AD:DC.
A. 11:9   B. 12:5
C. 11:3   D. 14:9

Ans. A
Sol. Let BE ⊥ AC

As ABD is isosceles triangle
let, DE=EA= x
In $\Delta BDE \to BE^2 = 144 - x^2$
In $\Delta BCE \to BE^2 = 324 - (20 - 2x + x)^2$
on comparing both equations
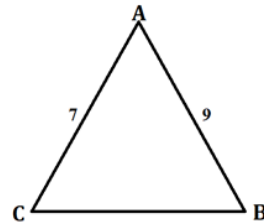$144 - x^2 = 324 - (20 - x)^2$
$144 = -76 + 40x$
$x = \dfrac{11}{2}$
hence AD:DC= 11:9

12. In a triangle ABC, AB = 9, AC = 7 & ∠B + ∠C = 120⁰. Find the perimeter of triangle.
A. $16 + 7\sqrt{3}$ B. $16 + \sqrt{67}$
C. $16 + 6\sqrt{3}$ D. None of these
Ans. B
Sol.

A.T.Q.
$\angle B + \angle C = 120^0$
$\angle A = 60^0$
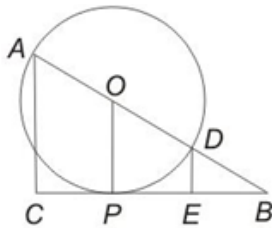From cosine rule
$BC^2 = AB^2 + AC^2 - 2AB.AC.\cos A$
$BC^2 = 81 + 49 - 2 \times 7 \times 9 \times \cos 60^0$
$BC^2 = 67$
$BC = \sqrt{67}$

Required perimeter = $9 + 7 + \sqrt{67}$

= $16 + \sqrt{67}$

13. In the given figure, AC and DE are perpendicular to tangent CB. AB passes through centre O of the circle whose radius is 20 cm. If AC = 36 cm, what is the length (in cm) of DE?

A. 4   B. 6
C. 2   D. 8
Ans. A
Sol. Let BD be x. In triangles BOP and BAC, AC and OP are parallel and perpendicular on a same line so these triangles are similar triangles.

$$\therefore \frac{BO}{OP} = \frac{BA}{AC}$$

$$\Rightarrow \frac{x + 20}{20} = \frac{x + 40}{36}$$

⇒9x + 180 = 5x + 200
⇒4x = 20
⇒x = 5 cm
Similarly, triangles BDE and BAC are similar, so

$$\frac{BD}{DE} = \frac{BA}{AC}$$

$$\Rightarrow \frac{5}{DE} = \frac{5 + 40}{36}$$

⇒DE = 4 cm

14. The volume of right circular cylinder whose height is 40 cm and circumference of its base is 66 cm, is
A. 55440 cm³   B. 3465 cm³
C. 7720 cm³   D. 13860 cm³
Ans. D
Sol.

$$2\pi r = 66\, cm$$

$$r = \frac{66 \times 7}{2 \times 22} = \frac{21}{2}\, cm$$

Volume of a cylinder = $\pi r^2 h$

$$= \frac{22}{7} \times \frac{21}{2} \times \frac{21}{2} \times 40$$

$$= 22 \times 3 \times 21 \times 10$$

$$= 13860\, cm^3$$

Hence, option D is correct.

15. Arrange the given words in the sequence in which they occur in the dictionary.
1) Teacher
2) Torture
3) Team
4) Toy
5) Traffic
A. 2, 1, 3, 5, 4   B. 1, 3, 2, 4, 5
C. 2, 3, 4, 5,1   D. 1, 3, 2, 5, 4
Ans. B
Sol. The correct order as per dictionary is-
Teacher (1) → Team (3) →Torture (2) → Toy (4) →Traffic (5)
Hence, option (B) is correct.

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