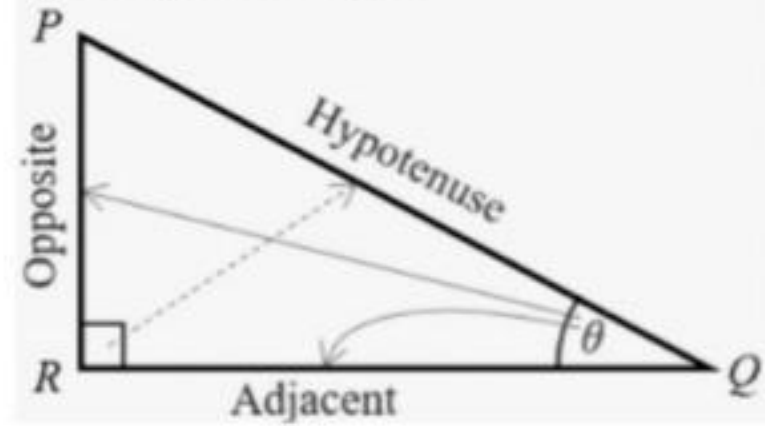


# Find the value of A?

## TRIGONOMETRIC IDENTITIES

Trigonometric ratios of an acute angle of right angled triangle:



$$\sin \theta = \frac{\text{The side opposite to } \angle \theta}{\text{hypotenuse}}$$

$$\cos \theta = \frac{\text{The side adjacent to } \angle \theta}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{The side opposite to } \angle \theta}{\text{the side adjacent to } \angle \theta}$$

$$\operatorname{cosec} \theta = \frac{1}{\sin \theta} = \frac{\text{hypotenuse}}{\text{the side opposite to } \angle \theta}$$

$$\sec \theta = \frac{1}{\cos \theta} = \frac{\text{hypotenuse}}{\text{the side adjacent to } \angle \theta}$$

$$\cot \theta = \frac{1}{\tan \theta} = \frac{\text{the side adjacent to } \angle \theta}{\text{the side opposite to } \angle \theta}$$

Table of values of various trigonometric ratios of  $0^\circ, 30^\circ, 45^\circ, 60^\circ$  and  $90^\circ$ .

$\angle \theta$	$0^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$90^\circ$
Sin	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
Cos	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
Tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not defined
Cot	Not defined	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0
Sec	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	Not defined
Cosec	Not defined	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1

### Trigonometric Identities.

- $\sin^2 \theta + \cos^2 \theta = 1$  or  $\sin^2 \theta = 1 - \cos^2 \theta$  or  $\cos^2 \theta = 1 - \sin^2 \theta$
- $\sec^2 \theta - \tan^2 \theta = 1$  or  $1 + \tan^2 \theta = \sec^2 \theta$  or  $\tan^2 \theta = \sec^2 \theta - 1$
- $\operatorname{cosec}^2 \theta - \cot^2 \theta = 1$  or  $\operatorname{cosec}^2 \theta = 1 + \cot^2 \theta$  or  $\cot^2 \theta = \operatorname{cosec}^2 \theta - 1$

### Trigonometric ratios of complementary angles

- $\sin(90^\circ - \theta) = \cos \theta$ ,  $\cos(90^\circ - \theta) = \sin \theta$
- $\tan(90^\circ - \theta) = \cot \theta$ ,  $\cot(90^\circ - \theta) = \tan \theta$
- $\sec(90^\circ - \theta) = \operatorname{cosec} \theta$ ,  $\operatorname{cosec}(90^\circ - \theta) = \sec \theta$

### 1 MARK QUESTIONS

1. If  $\cos A = \sin(A + 36^\circ)$  where  $36^\circ$  is an acute angle, find the value of A.

Sol: Given  $\cos A = \sin(A + 36^\circ)$   
 $\sin(90^\circ - A) = \sin(A + 36^\circ)$   
 $\Rightarrow 90^\circ - A = A + 36^\circ$   
 $\Rightarrow 90^\circ - 36^\circ = 2A$   
 $\Rightarrow 2A = 54^\circ \Rightarrow A = 27^\circ$

2. Prove that  $\tan 20^\circ \tan 25^\circ \tan 45^\circ \tan 65^\circ \tan 70^\circ = 1$

Sol: LHS =  $\tan 20^\circ \tan 25^\circ \tan 45^\circ \tan 65^\circ \tan 70^\circ$   
 $= \tan 20^\circ \tan 25^\circ \tan 45^\circ$   
 $\tan(90^\circ - 25^\circ) \tan(90^\circ - 20^\circ)$   
 $= (\tan 20^\circ \cot 20^\circ) \tan 45^\circ (\tan 25^\circ \cot 25^\circ)$   
 $= 1 \times 1 \times 1 = 1 = \text{RHS.}$

3. Prove that  $\sin^2 \theta (1 + \cot^2 \theta) = 1$

Sol: LHS =  $\sin^2 \theta (1 + \cot^2 \theta)$   
 $= \sin^2 \theta (\operatorname{cosec}^2 \theta) = \sin^2 \theta \times \frac{1}{\cos^2 \theta}$

= 1 = RHS

4. Prove that  $\sqrt{\sec^2 \theta + \operatorname{cosec}^2 \theta} = \tan \theta + \cot \theta$

Sol: LHS =  $\sqrt{\sec^2 \theta + \operatorname{cosec}^2 \theta}$   
 $= \sqrt{(1 + \tan^2 \theta) + (1 + \cot^2 \theta)}$   
 $= \sqrt{2 + \tan^2 \theta + \cot^2 \theta}$  ( $\because \tan \theta \cot \theta = 1$ )  
 $= \sqrt{\tan^2 \theta + \cot^2 \theta + 2 \tan \theta \cot \theta}$   
 $= \sqrt{(\tan \theta + \cot \theta)^2} = \tan \theta + \cot \theta$

## 10th Class Special

5. If A, B, C are the interior angles of a triangle ABC, then prove that

$$\tan\left(\frac{B+C}{2}\right) = \cot \frac{A}{2}$$

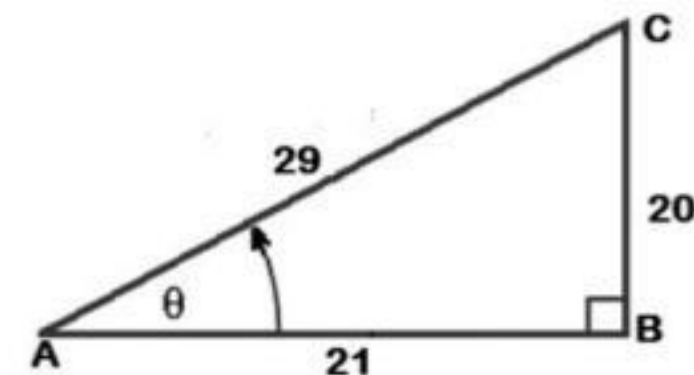
Sol: In a triangle ABC,  $A + B + C = 180^\circ$   
 (Angle sum property of a triangle)

$A + B + C = 180^\circ \Rightarrow B + C = 180^\circ - A$   
 $\Rightarrow \frac{B+C}{2} = \frac{180^\circ - A}{2} = 90^\circ - \frac{A}{2}$   
 $\Rightarrow \tan\left(\frac{B+C}{2}\right) = \tan\left(90^\circ - \frac{A}{2}\right)$   
 $\Rightarrow \tan\left(\frac{B+C}{2}\right) = \cot \frac{A}{2}$

6. If  $\tan \theta = \frac{20}{21}$ , show that

$$\frac{1 - \sin \theta + \cos \theta}{1 + \sin \theta - \cos \theta} = \frac{3}{7}$$

Sol: Given  $\tan \theta = \frac{20}{21}$ ,  
 according to Pythagoras law  
 $AC = \sqrt{400 + 441} = \sqrt{841} = 29$



$$\text{L.H.S} = \frac{1 - \frac{20}{29} + \frac{21}{29}}{1 + \frac{20}{29} - \frac{21}{29}} = \frac{\frac{29 - 20 + 21}{29}}{\frac{29 + 20 - 21}{29}} = \frac{30}{28} = \frac{15}{14}$$

### 2 MARK QUESTIONS

1. Prove that  $\frac{(1 + \sin \theta)^2 + (1 - \sin \theta)^2}{\cos^2 \theta} = 2 \frac{1 + \sin^2 \theta}{1 - \sin^2 \theta}$

Sol: we have LHS =  $\frac{(1 + \sin \theta)^2 + (1 - \sin \theta)^2}{\cos^2 \theta}$   
 $= \frac{(1 + 2 \sin \theta + \sin^2 \theta) + (1 - 2 \sin \theta + \sin^2 \theta)}{\cos^2 \theta}$   
 $= \frac{2 + 2 \sin^2 \theta}{\cos^2 \theta} = \frac{2(1 + \sin^2 \theta)}{1 - \sin^2 \theta}$   
 $= 2 \frac{1 + \sin^2 \theta}{1 - \sin^2 \theta} = \text{RHS}$

2. Prove that  $\frac{1 + \sin \theta}{1 - \sin \theta} = \sec \theta + \tan \theta$

Sol: LHS =  $\frac{1 + \sin \theta}{1 - \sin \theta}$   
 $= \frac{1 + \sin \theta}{1 - \sin \theta} \times \frac{1 + \sin \theta}{1 + \sin \theta}$   
 (rationalizing the denominator)  
 $\Rightarrow \frac{(1 + \sin \theta)(1 + \sin \theta)}{1 - \sin^2 \theta} = \frac{(1 + \sin \theta)^2}{\cos^2 \theta}$   
 $\Rightarrow \frac{1 + \sin \theta}{\cos \theta} = \frac{1}{\cos \theta} + \frac{\sin \theta}{\cos \theta} = \sec \theta + \tan \theta$

3. Prove that  $\frac{\cos^2 \theta}{1 - \tan \theta} + \frac{\sin^3 \theta}{\sin \theta - \cos \theta} = 1 + \cos \theta \sin \theta$

Sol: We have LHS =  $\frac{\cos^2 \theta}{1 - \tan \theta} + \frac{\sin^3 \theta}{\sin \theta - \cos \theta}$   
 $= \frac{\cos^3 \theta}{\cos \theta - \sin \theta} - \frac{\sin^3 \theta}{\cos \theta - \sin \theta}$   
 $= \frac{\cos^3 \theta - \sin^3 \theta}{\cos \theta - \sin \theta}$   
 $= \frac{(\cos \theta - \sin \theta)(\cos^2 \theta + \sin^2 \theta + \cos \theta \sin \theta)}{\cos \theta - \sin \theta}$   
 $= 1 + \cos \theta \sin \theta$

4. Prove that  $\frac{\sin A - \sin B}{\cos A + \cos B} + \frac{\cos A - \cos B}{\sin A + \sin B} = 0$

Sol: We have LHS =  $\frac{\sin A - \sin B}{\cos A + \cos B} + \frac{\cos A - \cos B}{\sin A + \sin B}$   
 $= \frac{(\sin A - \sin B)(\sin A + \sin B) + (\cos A + \cos B)(\cos A - \cos B)}{(\cos A + \cos B)(\sin A + \sin B)}$   
 $= \frac{\sin^2 A - \sin^2 B + \cos^2 A - \cos^2 B}{(\cos A + \cos B)(\sin A + \sin B)}$   
 $= \frac{1 - 1}{(\cos A + \cos B)(\sin A + \sin B)} = 0 = \text{RHS}$   
 $= 1 + \cos \theta \sin \theta = \text{LHS}$

5. If  $\sin \theta + \sin^2 \theta = 1$ , prove that  $\cos^2 \theta + \cos^4 \theta = 1$

Sol: We have LHS =  $\sin \theta + \sin^2 \theta = 1$   
 $\Rightarrow \sin \theta = 1 - \sin^2 \theta \Rightarrow \sin \theta = \cos^2 \theta$   
 now  $\cos^2 \theta + \cos^4 \theta = \cos^2 \theta + (\cos^2 \theta)^2$   
 $= \cos^2 \theta + \cos^4 \theta = \cos^2 \theta + \sin^2 \theta$   
 $\Rightarrow \cos^2 \theta + \cos^4 \theta = 1$   
 $[\because \cos^2 \theta = \sin \theta \text{ proved}]$

6. Find the value of  $\sec^4 \theta (1 - \sin^4 \theta) - \tan^2 \theta$

Sol: Given  $\sec^4 \theta (1 - \sin^4 \theta) - \tan^2 \theta$   
 $= \sec^4 \theta (1 - \sin^2 \theta)(1 + \sin^2 \theta) - \tan^2 \theta$   
 $= \sec^4 \theta \cos^2 \theta (1 + \sin^2 \theta) - \tan^2 \theta$   
 $= \sec^2 \theta + \tan^2 \theta - \tan^2 \theta = \sec^2 \theta$

### 4 MARK QUESTIONS

1. Prove that  $\tan^2 \theta - \tan^2 \theta = \frac{\cos^2 B - \cos^2 A}{\cos^2 B \cos^2 A} = \frac{\sin^2 A - \sin^2 B}{\cos^2 A \cos^2 B}$

Sol: We have LHS =  $\tan^2 A - \tan^2 B$   
 $= \frac{\sin^2 A}{\cos^2 A} - \frac{\sin^2 B}{\cos^2 B}$   
 $= \frac{\sin^2 A \cos^2 B - \cos^2 A \sin^2 B}{\cos^2 A \cos^2 B}$   
 $= \frac{(1 - \cos^2 A) \cos^2 B - \cos^2 A (1 - \cos^2 B)}{\cos^2 A \cos^2 B}$   
 $= \frac{\cos^2 B - \cos^2 A \cos^2 B - \cos^2 A + \cos^2 A \cos^2 B}{\cos^2 A \cos^2 B}$   
 $= \frac{\cos^2 B - \cos^2 A}{\cos^2 A \cos^2 B}$   
 $= \frac{(1 - \sin^2 B) - (1 - \sin^2 A)}{\cos^2 A \cos^2 B}$   
 $= \frac{\sin^2 A - \sin^2 B}{\cos^2 A \cos^2 B} = \text{RHS}$

2. If  $\cos \theta + \sin \theta = \sqrt{2} \cos \theta$ , show that  $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$

Sol: We have LHS =  $\cos \theta + \sin \theta = \sqrt{2} \cos \theta$   
 $(\because \text{squaring on both sides})$   
 $(\cos \theta + \sin \theta)^2 = 2 \cos^2 \theta$   
 $(\cos^2 \theta + \sin^2 \theta + 2 \cos \theta \sin \theta) = 2 \cos^2 \theta$   
 $\cos^2 \theta - 2 \cos \theta \sin \theta = \sin^2 \theta$   
 $\cos^2 \theta - 2 \cos \theta \sin \theta + \sin^2 \theta = 2 \sin^2 \theta$   
 $(\because \text{Adding } \sin^2 \theta \text{ both sides})$

# విజేత

For Feedback...  
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 Hyderabad  
 9849386253



$$\square (\cos \theta - \sin \theta)^2 = 2 \sin^2 \theta$$

$$\square \cos \theta - \sin \theta = \sqrt{2} \sin \theta$$

We can use another method as

$$\text{LHS} = \cos \theta + \sin \theta = \sqrt{2} \cos \theta$$

( $\because$  squaring on both sides)

$$\square (\cos \theta + \sin \theta)^2 = 2 \cos^2 \theta$$

$$\square \cos^2 \theta + \sin^2 \theta + 2 \sin \theta \cos \theta = 2 \cos^2 \theta$$

$$\square 2 \sin \theta \cos \theta = 2 \cos^2 \theta - \cos^2 \theta \quad \square 2 \sin \theta \cos \theta$$

$$= 2 (\cos \theta + \sin \theta) (\cos \theta - \sin \theta)$$

$$\square (\cos \theta + \sin \theta) (\cos \theta - \sin \theta)$$

$$= 2 \sin \theta \cos \theta$$

$$\square \cos \theta - \sin \theta = \frac{2 \sin \theta \cos \theta}{\cos \theta + \sin \theta}$$

$$\square \cos \theta - \sin \theta = \frac{2 \sin \theta \cos \theta}{\sqrt{2} \cos \theta}$$

$$\square \cos \theta - \sin \theta = \sqrt{2} \sin \theta = \text{RHS}$$

$$\square \cos \theta - \sin \theta = \sqrt{2} \cos \theta = \text{RHS}$$

$$[\because \cos \theta + \sin \theta = \sqrt{2} \cos \theta]$$

$$\square \cos \theta + \sin \theta = \sqrt{2} \cos \theta$$

3. If  $\sec \theta = x + \frac{1}{4x}$  prove that

$$\sec \theta + \tan \theta = 2x \text{ or } \frac{1}{2x}$$

Sol: We have  $\sec \theta = x + \frac{1}{4x}$

$$(\because \tan^2 \theta = \sec^2 \theta - 1)$$

$$\Rightarrow \tan^2 \theta = \left[x + \frac{1}{4x}\right]^2 - 1$$

$$\square \tan^2 \theta = x^2 + \frac{1}{16x^2} + \frac{1}{2} - 1$$

$$\square \tan^2 \theta = x^2 + \frac{1}{16x^2} - \frac{1}{2}$$

$$\square \tan^2 \theta = \left[x - \frac{1}{4x}\right]^2$$

$$\square \tan \theta = \pm \left[x - \frac{1}{4x}\right]$$

$$\square \tan \theta = \left[x - \frac{1}{4x}\right] \text{ or } \tan \theta = -\left[x - \frac{1}{4x}\right]$$

$$\text{When } \tan \theta = -\left[x - \frac{1}{4x}\right], \text{ we have}$$

$$\sec \theta + \tan \theta = x + \frac{1}{4x} + x - \frac{1}{4x} = 2x$$

$$\text{When } \tan \theta = \left[x - \frac{1}{4x}\right], \text{ we have}$$

$$\sec \theta + \tan \theta = x + \frac{1}{4x} + x - \frac{1}{4x} = \frac{1}{2x}$$

$$\text{Hence } \sec \theta + \tan \theta = 2x = \frac{1}{2x}$$

4. Prove that  $\frac{\sin \theta}{1 + \cos \theta} + \frac{1 + \cos \theta}{\sin \theta} = 2 \operatorname{cosec} \theta$ .

Sol: We have LHS =  $\frac{\sin \theta}{1 + \cos \theta} + \frac{1 + \cos \theta}{\sin \theta}$

$$= \frac{\sin^2 \theta + (1 + \cos \theta)^2}{(1 + \cos \theta) \sin \theta}$$

$$= \frac{\sin^2 \theta + \cos^2 \theta + 1 + 2 \cos \theta}{(1 + \cos \theta) \sin \theta}$$

$$= \frac{2 + 2 \cos \theta}{(1 + \cos \theta) \sin \theta} \quad (\because \sin^2 \theta + \cos^2 \theta = 1)$$

$$= \frac{2(1 + \cos \theta)}{(1 + \cos \theta) \sin \theta} = \frac{2}{\sin \theta}$$

$$= 2 \operatorname{cosec} \theta = \text{RHS}$$

# Jair Bolsonaro is in news, reason?

## CURRENT AFFAIRS

### 1. Observe the following?

1. Political Parties comes under RTI act, According to a Supreme Court Judgment
2. The office of Chief Justice of Supreme Court comes under the transparency law, the Right to Information (RTI) Act
3. Political Parties will not come under RTI act, and there has a case been filed for bringing all political parties under it
4. RTI came fully into force on 12 October 2005

#### Which of the above are true

- A) 2, 3 B) 1, 2 C) 2, 3, 4 D) 1, 2, 4

### 2. Assertion: Union Ministry of Environment, Forest and Climate Change has under-taken 'Swachh-Nirmal Tat Abhiyaan', from 11-17 November 2019

**Reason:** Union Ministry wants to make coastal areas across the country clean and to create awareness amongst citizens about the importance of coastal ecosystems

- A) Both A and R are true and R is the correct explanation of A  
 B) Both A and R are true but R is not the correct explanation of A  
 C) A is true but R is false  
 D) A is false but R is true

### 3. Observe the following?

1. Maharashtra Legislative Assembly consist of 288 seats, Majority needed to form government is 145
2. In Elections for Maharashtra assembly, Sena emerged as single largest party
3. In Elections for Maharashtra assembly, BJP emerged as single largest party
4. At present under article 352, President rule imposed in Maharashtra
5. At present under article 356, President rule imposed in Maharashtra

#### Which of the above are true

- A) 1, 2, 4 B) 1, 3, 4  
 C) 1, 3, 5 D) 1, 2, 5

### 4. Observe the following?

1. China will host the 19th council of heads of government of the Shanghai Cooperation Organisation 2020
2. India will host the 19th council of heads of government of the Shanghai Cooperation Organisation 2020
3. Present number of members in Shanghai Cooperation Organization (SCO) is 8
4. Head Quarters of SCO is in China

#### Which of the above are true

- A) 2, 4 B) 3, 4 C) 1, 3, 4 D) 2, 3, 4

### 5. Match the following?

1. World Pneumonia Day  
a. November 10th
2. World Kindness Day  
b. November 14th
3. World Science Day for Peace and Development  
c. November 13th
4. World Diabetes Day  
d. November 12th
5. International Day for Tolerance  
e. November 16th

- A) 1-b, 2-c, 3-a, 4-d, 5-e  
 B) 1-d, 2-c, 3-a, 4-b, 5-e

C) 1-d, 2-a, 3-c, 4-b, 5-e

D) 1-d, 2-e, 3-a, 4-b, 5-c

### 6. Match the following meetings and venues?

1. 27th Conference of Central and State Statistical Organizations (COCSSO)  
a. West Bengal
2. India-ASEAN (Association of South-east Asian Nations) Business Summit  
b. New Delhi
3. International Conference on Yoga  
c. Karnataka

- A) 1-b, 2-a, 3-c B) 1-b, 2-c, 3-a  
 C) 1-a, 2-b, 3-c D) 1-c, 2-b, 3-a

### 7. Match the following states and reasons for being in news?

1. Sishu Suraksha App a. Uttar Pradesh
2. e-Ganna app b. Assam
3. Bali Yatra c. Odisha

## Telangana bags Swachh Survekshan Grameen Award-2019

✓ Panchayat Raj and Rural Development Minister Errabelli Dayakar Rao received Swachh Survekshan Grameen Award-2019 awarded to Telangana State, during a function held in New Delhi. By launching Palle Pragathi (30-day Action Plan) programme initiated by the Chief Minister enabled the State achieve remarkable results in sanitation which also helped the State in controlling spreading of diseases.

- A) 1-b, 2-a, 3-c B) 1-b, 2-c, 3-a  
 C) 1-a, 2-b, 3-c D) 1-c, 2-b, 3-a

### 8. Assertion: Prakash Javadekar took charge as the Union Minister of Heavy Industries and Public Enterprises

**Reason:** Prakash Javadekar is Minister for Information and Broadcasting

- A) Both A and R are true and R is the correct explanation of A  
 B) Both A and R are true but R is not the correct explanation of A  
 C) A is true but R is false  
 D) A is false but R is true

### 9. Observe the following?

1. Justice Muhammad Raffiq took oath as Chief Justice of Meghalaya High Court
2. Justice Ajay Kumar Mittal took oath as Chief Justice of Meghalaya High Court
3. Chief Justice of High Court is appointed by Governor of concerned state
4. Chief Justice of High Court is appointed by President of India

#### Which of the above are true

- A) 2, 3 B) 2, 4 C) 1, 4 D) 1, 3

### 10. Assertion: CSIR-Institute of Microbial Technology (IMTECH), signed a MoU with Indian Institute of Technology-Bombay

**Reason:** IMTECH and IIT want to exchange of ideas, development of new knowledge and enhance high-quality research acumen between the researchers and faculty of both the institutes

- A) Both A and R are true and R is the

correct explanation of A

- B) Both A and R are true but R is not the correct explanation of A  
 C) A is true but R is false  
 D) A is false but R is true

### 11. Observe the following?

1. The 2019 World Kabaddi Cup will take place from December 1-9 and in Punjab.
2. The 2019 World Kabaddi Cup will take place from December 1 to 9 and in Uttar Pradesh
3. Nine teams will participate in World Kabaddi Cup
4. The competition has been previously contested in 2004, 2007 and 2016. All the tournaments have been won by India
5. The competition has been previously contested in 2004, 2007 and 2016. All the tournaments have been won by USA

#### Which of the above are true

- A) 1, 3, 5 B) 1, 3, 4 C) 2, 3, 4 D) 2, 3, 5



### 12. Jair Bolsonaro is in news, reason?

- A) He is Venezuela President, and invited as chief guest of Republic day celebrations of India in 2020  
 B) He is newly elected President of Mauritius  
 C) He is Brazil President, and invited as chief guest of Republic day celebrations of India in 2020  
 D) He is Venezuela President, and invited as chief guest of Republic day celebrations of India in 2021

### 13. Assertion: Moody's Investors Service has slashed India's economic growth forecast to 5.6% for the fiscal year 2019

**Reason:** According to Moody's the government measures do not address the widespread weakness in consumption demand

- A) Both A and R are true and R is the correct explanation of A  
 B) Both A and R are true but R is not the correct explanation of A  
 C) A is true but R is false  
 D) A is false but R is true

### 14. Tiger Triumph, is a joint US-India tri-service exercise, held in Visakhapatnam by India and...

- A) Russia B) USA  
 C) South Africa D) Bangladesh

### 15. 16th November is celebrated as...?

1. National Press day
  2. International Day for Tolerance
  3. International day of elders
- A) 1, 3 B) 2, 3 C) 1, 2 D) 1, 2, 3

### 16. Assertion: NISHTHA has been launched in the Union Territory of Jammu and Kashmir

**Reason:** Government wants to improve learning outcomes at Elementary level through integrated Teacher Trainings

- A) Both A and R are true and R is the correct explanation of A  
 B) Both A and R are true but R is not the correct explanation of A  
 C) A is true but R is false  
 D) A is false but R is true

### 17. Which of the following Indian film has won prestigious awards at the Asian Film Festival Barcelona?

- A) Azadi-Insan B) Manikarnika  
 C) Aakash D) Bhonsle



V. Rajendra Sharma

Faculty

9849212411



### 18. North India's 1st sugar mill which will produce ethanol, has been launched in which of the following state?

- A) Punjab B) Haryana  
 C) Uttar Pradesh D) Uttarakhand

### 19. Match the following persons and awards?

1. Rezwana Choudhury Bannya  
a. SAG Life Achievement Award
2. Ravi Prakash  
b. ICCR distinguished alumni award
3. Robert De Niro  
c. BRICS-Young Innovator Prize

- A) 1-b, 2-a, 3-c B) 1-b, 2-c, 3-a  
 C) 1-a, 2-b, 3-c D) 1-c, 2-b, 3-a

### 20. Match the following persons and appointments?

1. Chief Justice of Jharkhand High Court  
a. Arsene Wenger
2. Chief Justice of Tripura High Court  
b. Akil Abdulhamid Kureshi
3. FIFA's Chief of global football development  
c. Nilam Sawhney
4. 1st Woman chief secretary of Andhra Pradesh  
d. Ravi Ranjan

- A) 1-b, 2-c, 3-a, 4-d  
 B) 1-d, 2-c, 3-a, 4-b  
 C) 1-d, 2-c, 3-b, 4-a  
 D) 1-d, 2-b, 3-a, 4-c

### 21. The International Association of Athletics Federations has officially changes its name and its new name is..?

- A) Athletics and Nations  
 B) Games of Athlets  
 C) World Athletics  
 D) World Competitions

### 22. The green tea and white tea of which of the following regins has been registered as a geographical indication products?

- A) Gauhawati B) Tumkur  
 C) Nilagiri D) Darjiling

### 23. Observe the following?

1. Justice Sharad Arvind Bobde took oath as the 47th Chief Justice of India
2. Chief Justice of India is appointed by Supreme Court Colligium
3. Chief Justice of India is appointed by President of India
4. Justice Bobde was elevated as a Judge of the Supreme Court on April 12, 2013

#### Which of the above are true

- A) 1, 2, 4 B) 1, 3, 4 C) 1, 4 D) 1, 3

## ANSWERS

1-c	2-a	3-c	4-d	5-b	6-c
7-a	8-b	9-c	10-a	11-b	12-c
13-a	14-b	15-c	16-a	17-d	18-c
19-b	20-d	21-c	22-d	23-b	

## Telangana got Rs.46,602 crore from Centre last fiscal

✓ The Central government has released a total of Rs.46,602.76 crore to Telangana under various heads including share in Central taxes, Finance Commission grants and other grants-in-aid (Centrally Sponsored Schemes and others) during 2018-19. Of Rs.46,602.76 crore released in 2018-19, Telangana's share in Central taxes was Rs.18,560.88 crore, followed by Rs.26,235.75 crore towards Centrally Sponsored Schemes (CSS) and Central Sector Schemes (CS). Another Rs.1,806.13 crore was released towards Finance Commission grants. During the previous years, the Centre released meager amounts of just Rs.24,478.87 crore in 2017-18 and another Rs.24,628.52 crore in 2016-17.