6) Period of $y = \cos x$ is ____. ✓a- 2π b- π c- $\pi/2$ d- $3\pi/2$

7) Period of $y = \tan x$ is ____. a- 2π ✓b- π c- $-\pi$ d- -2π

8) Period of $y = \cot x$ is ____. a- 2π ✓b- π c- $-\pi$ d- -2π

9) Period of $y = \operatorname{cosec} x$ is ____ a- π b- $-\pi$ ✓c- 2π d- -2π

10) Period of $y = \sec x$ is ____ a- π b- $-\pi$ c- -2π ✓d- 2π

11) Trigonometric functions are ____. a- 2 b- 3 c- 4 ✓d- 6

12) Trigonometric Functions are defined on ________.

a- X-axis b- Y-axis c- Line ✓d- Unit Circle

13) Period of $\sin 2x$ is ____. a- 2π ✓b- π c- $-\pi$ d- -2π

14) Period of $\tan(\frac{x}{7})$ is ____. a- $\frac{\pi}{7}$ b- 2π c- $\frac{2\pi}{7}$ ✓d- 7π

15) Period of $\sin(\frac{x}{2})$ is ____. a- π b- 2π c- 4π d- $\frac{\pi}{2}$

16) Period of $3\sin(\frac{x}{3})$ is ____. a- 2π b- $\frac{2\pi}{3}$ ✓c- 6π d- $\frac{3\pi}{2}$

17) If $f(x+p) = f(x)$ then f is called ____ function.

a- Algebraic b- Exponential ✓c- Periodic d- Redical.

18) Domain of $y = \tan x$ is ________.

a- $\mathbb{R}$ b- $(-\infty, \infty)$ ✓c- $\mathbb{R}_\wedge\, x \neq \frac{(2n+1)\pi}{2}$, $n \in Z$ d- $(-\frac{\pi}{2}, \frac{\pi}{2})$

19) Range of $y = \tan x$ is ________.

✓a- $\mathbb{R}$ b- $(-\pi/2, \pi/2)$ c- $[-\pi/2, \pi/2]$ d- $[0, \pi]$

20) Domain of $y = \cot x$ is ________.

a- $\mathbb{R}$ b- $\mathbb{R}_\wedge\, x \neq (2n+1)\pi/2$ ✓c- $\mathbb{R}_\wedge\, x \neq n\pi$ $n \in Z$ d- $(-\pi/2, \pi/2)$

21) Domain of $y = \operatorname{cosec} x$ is ________

a- $\mathbb{R}$ b- $(-\infty, \infty)$ ✓c- $\mathbb{R}_\wedge\, x \neq n\pi, n \in Z$ d- $\mathbb{R}_\wedge\, x = (2n+1)\pi/2$ $n \in Z$

22) Range of $y = \sec x$ is ________.

a- $y \leq 1$ b- $y \geq 1$ c- $y \leq -1$ ✓d- $y \leq -1 \wedge y \geq 1$

23) Period of $\tan 4x$ is ____. a- π b- 4π ✓c- $\pi/4$ d- $\pi/8$

24) Period of $\cos(\frac{x}{5})$ is ____. a- 5π ✓b- 10π c- $\frac{\pi}{5}$ d- $\frac{2\pi}{5}$

CHAPTER: 12

1) In any ΔABC, $\alpha + \beta + \gamma =$ ____ a- $90°$ ✓b- $180°$ c- $270°$ d- $360°$

2) Triangle which is not right is called ✓a- Obique b- Cyclic c- Skew d- Plane

3) Angle above eye level is called Angle of ________.

a- Depression ✓b- Elevation c- incident d- Refraction.

4) Angle below eye level is called Angle of ________.

✓a- Depression b- Elevation c- Sector d- incident.

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5) In any triangle, ____ $= b^2 + c^2 - 2bc\cos\alpha$ a- ✓ a^2 b- b^2 c- c^2 d- a

6) In any triangle, ____ $= c^2 + a^2 - 2ca\cos\beta$ a- a^2 b- ✓ b^2 c- c^2 d- b

7) In any triangle, ____ $= a^2 + b^2 - 2ab\cos\gamma$ a- a^2 b- b^2 ✓ c- c^2 d- c

8) ____ $= \frac{b^2+c^2-a^2}{2bc}$ a- $\cos\alpha$ b- $\sin\alpha$ c- $\cos\beta$ d- $\cos\gamma$

9) ____ $= \frac{c^2+a^2-b^2}{2ca}$ a- $\cos\alpha$ ✓ b- $\cos\beta$ c- $\cos\gamma$ d- $\sin\beta$

10) ____ $= \frac{a^2+b^2-c^2}{2ab}$ a- $\cos\alpha$ b- $\cos\beta$ ✓ c- $\cos\gamma$ d- $\sin\gamma$

11) $a^2 = b^2 + c^2 - 2bc\cos\alpha$ reduces to Pythagorous theorem if ____.
a- ✓ $\alpha = 90^\circ$ b- $\beta = 90^\circ$ c- $\gamma = 90^\circ$ d- $\alpha = 180^\circ$

12) $b^2 = c^2 + a^2 - 2ca\cos\beta$ reduces to Pythagorous theorem if ____.
a- $\alpha = 90^\circ$ ✓ b- $\beta = 90^\circ$ c- $\gamma = 180^\circ$ d- $\gamma = 90^\circ$

13) $c^2 = a^2 + b^2 - 2ab\cos\gamma$ reduces to Pythagorous theorem if ____.
a- $\alpha = 90^\circ$ b- $\beta = 90^\circ$ ✓ c- $\gamma = 90^\circ$ d- $\gamma = 180^\circ$

14) In any ΔABC, $\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{c}{\sin\gamma}$ is called Law of ____.
a- Cosines ✓ b- Sines c- Tangents d- None

15) ____ $= \tan\left(\frac{\alpha-\beta}{2}\right) / \tan\left(\frac{\alpha+\beta}{2}\right)$ in any ΔABC.
a- $\frac{a+b}{a-b}$ ✓ b- $\frac{a-b}{a+b}$ c- $\frac{b-a}{b+a}$ d- $\frac{b+a}{b-a}$

16) ____ $= \tan\left(\frac{\beta-\gamma}{2}\right) / \tan\left(\frac{\beta+\gamma}{2}\right)$ in any ΔABC.
a- $\frac{b+c}{b-c}$ ✓ b- $\frac{b-c}{b+c}$ c- $\frac{c-b}{c+b}$ d- $\frac{c+b}{c-b}$

17) ____ $= \tan\left(\frac{\gamma-\alpha}{2}\right) / \tan\left(\frac{\gamma+\alpha}{2}\right)$ in any ΔABC.
a- ✓ $\frac{c-a}{c+a}$ b- $\frac{c+a}{c-a}$ c- $\frac{a-c}{a+c}$ d- $\frac{a+c}{a-c}$

18) If a, b, c are the Sides of ΔABC then ____ $= a+b+c$.
a- S b- $S/2$ ✓ c- $2S$ d- S^2

19) $\cos\frac{\alpha}{2} =$ ____ a- $\sqrt{\frac{(S-a)(S-b)}{ab}}$ b- ✓ $\sqrt{\frac{S(S-a)}{bc}}$ c- $\sqrt{\frac{S(S-b)}{ac}}$ d- $\sqrt{\frac{S(S-c)}{ab}}$

20) $\cos\beta/2 =$ ____ a- $\sqrt{\frac{S(S-a)}{bc}}$ b- $\sqrt{\frac{S(S-b)}{ab}}$ ✓ c- $\sqrt{\frac{S(S-b)}{ac}}$ d- $\sqrt{\frac{S(S-b)}{bc}}$

21) $\cos\frac{\gamma}{2} =$ ____ a- $\sqrt{\frac{S(S-a)}{bc}}$ b- $\sqrt{\frac{S(S-b)}{ac}}$ ✓ c- $\sqrt{\frac{S(S-c)}{ab}}$ d- $\sqrt{\frac{S(S-c)}{bc}}$

22) $\sin\frac{\alpha}{2} =$ ____ a- $\sqrt{\frac{(S-a)(S-b)}{ab}}$ ✓ b- $\sqrt{\frac{(S-b)(S-c)}{bc}}$ c- $\sqrt{\frac{(S-a)(S-c)}{ac}}$ d- None.

23) $\sin\beta/2 =$ ____ ✓ a- $\sqrt{\frac{(S-a)(S-c)}{ac}}$ b- $\sqrt{\frac{S(S-a)}{bc}}$ c- $\sqrt{\frac{(S-a)(S-b)}{ab}}$ d- $\sqrt{\frac{(S-a)(S-c)}{ac}}$

24) $\sin\frac{\gamma}{2} =$ ____ ✓ a- $\sqrt{\frac{(S-a)(S-b)}{ab}}$ b- $\sqrt{\frac{(S-a)(S-c)}{ac}}$ c- $\sqrt{\frac{(S-b)(S-c)}{bc}}$ d- $\sqrt{\frac{S(S-c)}{ab}}$

25) $\tan\frac{\alpha}{2} =$ ____ a- $\sqrt{\frac{S-a}{(S-b)(S-c)}}$ ✓ b- $\sqrt{\frac{S(S-a)}{(S-b)(S-c)}}$ c- $\sqrt{\frac{S(S-b)}{(S-a)(S-c)}}$ d- $\sqrt{\frac{S(S-a)}{S+a}}$

26) $\tan\beta/2 =$ ____ a- $2S$ b- $S(S-a)$ c- $S(S-c)$ ✓ d- $\sqrt{\frac{S(S-b)}{(S-a)(S-c)}}$

27) $\tan\frac{\gamma}{2} =$ ____ a- $\sqrt{\frac{S(S-a)}{(S-b)(S-c)}}$ b- $\sqrt{\frac{(S-a)S}{(S-a)(S-c)}}$ c- $\sqrt{\frac{S(S-b)}{(S-a)(S-c)}}$ ✓ d- $\sqrt{\frac{S(S-c)}{(S-a)(S-b)}}$

28) $\cot\frac{\alpha}{2} =$ ____ ✓ a- $\sqrt{\frac{S(S-a)}{(S-b)(S-c)}}$ b- $\sqrt{\frac{S(S-b)}{(S-a)(S-c)}}$ c- $\sqrt{\frac{S(S-c)}{(S-a)(S-b)}}$ d- $\sqrt{\frac{(S-b)(S-c)}{S(S-a)}}$

29) If a is smallest Side then ______ will be smallest angle in ΔABC.
a-✓ α b- β c- γ d- None.

30) If γ is greatest angle then ____ is largest side in ΔABC.
a- a b- b c-✓ c d- None

31) Area of triangle ABC = ______
a- $\frac{1}{2}ab\sin\alpha$ b- $\frac{1}{2}ab\sin\beta$ c-✓ $\frac{1}{2}ab\sin\gamma$ d- $\frac{1}{2}bc\sin\gamma$.

32) ΔABC = ______ a- $\frac{1}{2}ab\sin\alpha$ b-✓ $\frac{1}{2}bc\sin\alpha$ c- $\frac{1}{2}bc\sin\beta$ d- $\frac{1}{2}bc\sin\gamma$

33) ΔABC = ______ a- $\frac{1}{2}ab\sin\alpha$ b- $\frac{1}{2}bc\sin\gamma$ c- $\frac{1}{2}ca\sin\gamma$ d-✓ $\frac{1}{2}ca\sin\beta$

34) ΔABC = ______ a- $\frac{1}{2}a^2\frac{\sin\beta\sin\gamma}{\sin\alpha}$ b- $\frac{1}{2}b^2\frac{\sin\alpha\sin\gamma}{\sin\beta}$ c- $\frac{1}{2}c^2\frac{\sin\alpha\sin\beta}{\sin\gamma}$ ✓d all a,b,c

35) ΔABC = ______ if a,b,c are given.
a- $S(S-a)(S-b)(S-c)$ b-✓ $\sqrt{S(S-a)(S-b)(S-c)}$ c- $2S(a+b+c)$ d- $\frac{abc}{2S}$

36) $\Delta=\sqrt{S(S-a)(S-b)(S-c)}$ is called ______ Formula.
a- Pythagorous b-✓ Hero c- Caylay d- Guass.

37) A circle drawn inside the triangle touching its three sides is called ______
a- Circum Circle ✓b- Inscribed Circle c- Escribed Circle. d None

38) Radius of Circum Circle is denoted by ______.
a- γ b- γ_1 c- γ_2 ✓d- R

39) $\frac{a}{2\sin\alpha}=\frac{b}{2\sin\beta}=\frac{c}{2\sin\gamma}$ = ______ a- Δ b- γ c- S ✓d- R

40) Circle which passes through the vertices of triangle is called ______.
a✓ Circum Circle b- In-Circle c- Ex-Circle d- e-Circle

41) R = ______ a- $\frac{4abc}{\Delta}$ b- $\frac{4\Delta}{abc}$ ✓c- $\frac{abc}{4\Delta}$ d- $\frac{\Delta}{4abc}$

42) In-radius is denoted by ____ a- R b- γ_1 c- γ_2 ✓d- γ

43) In-radius γ = ______ a✓ $\frac{\Delta}{S}$ b- $\frac{S}{\Delta}$ c- $S\Delta$ d- $\frac{1}{S\Delta}$

44) The e-radius Corresponding to vertex C is ______.
a- $\frac{\Delta}{S}$ b- $\frac{\Delta}{S-a}$ c- $\frac{\Delta}{S-b}$ ✓d- $\frac{\Delta}{S-c}$

45) The e-radius corresponding to vertex B is ______.
a- $\Delta/S-a$ ✓b- $\Delta/S-b$ c- $\frac{\Delta}{S-c}$ d- $\frac{\Delta}{S}$

46) The e-radius Corresponding to vertex A is ______.
a- $\frac{S-a}{\Delta}$ b- $\frac{\Delta}{S-b}$ c- $\Delta/S-c$ d-✓ $\Delta/S-a$

47) In an equilateral Triangle $r : R : \gamma_1$ = ______
a- 2:3:2 ✓b- 1:2:3 c- 3:2:1 d- 2:1:3

48) ______ $=\sqrt{\frac{ab}{S(S-c)}}$ a- $\sin\gamma/_2$ b- $\cos\gamma/_2$ ✓c- $\sec\gamma/_2$ d- $\operatorname{cosec}\frac{\gamma}{2}$

49) $\gamma\gamma_1\gamma_2\gamma_3$ = ______ a- Δ b✓ Δ^2 c- Δ^3 d- Δ^4

50) ______ $=\sqrt{\frac{S(S-c)}{ab}}$ a- $\sin(\gamma/_2)$ b✓ $\cos(\gamma/_2)$ c- $\cos(\alpha/_2)$ d- $\cos(\beta/_2)$