

# Advanced Surveying

## Question No. 01

The angle between the direction of star and the direction of earth's axis of rotation is called

- (A) Co-declination
- (B) Co-latitude
- (C) Declination
- (D) Latitude

Answer: Option A

## Question No. 02

Polaris is usually observed for the determination of the latitude when it is

- (A) At culmination
- (B) At elongation
- (C) Neither at culmination nor at elongation
- (D) Either at culmination or at elongation

Answer: Option A

## Question No. 03

Pick up the correct statement from the following:

- (A) The vertical plane containing the zenith, the station of observation and the celestial pole is the observer's meridian plane
- (B) The angle between the direction of star in vertical plane and the direction of the star in horizontal plane is called the altitude of the star
- (C) The complement of the altitude of star is called the zenith distance of the star
- (D) All the above

Answer: Option D

## Question No. 04

The point on the photograph where bisector between the vertical line through optical centre of the camera lens and the plate perpendicular meets, is known as

- (A) Principal point
- (B) Isocenter
- (C) Plumb point
- (D) Perspective centre

Answer: Option B

## Question No. 05

The station where observations are not made, but the angles at the station are used in triangulation series, is known as

- (A) Satellite station
  - (B) Subsidiary station
  - (C) Pivot station
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(D) Main station

Answer: Option C

**Question No. 06**

**If the distance between the projectors is altered by a movement along X-axis of one projector,**

(A) The length of the air base is increased

(B) The scale of the model is altered

(C)  $y$ -parallax is not affected

(D) All the above

Answer: Option D

**Question No. 07**

**On vertical photographs, height displacement is**

(A) Positive for points above datum

(B) Negative for points below datum

(C) Zero for points vertically below the air station

(D) All the above

Answer: Option D

**Question No. 08**

**At the first point of Aeries, the sun moves**

(A) Northward

(B) Southward

(C) From south to north of the equator

(D) From north to south of the equator

Answer: Option C

**Question No. 09**

**The difference in longitude of two places expressed in time is equal to the difference in their**

(A) Sidereal time

(B) Apparent solar time

(C) Mean solar time

(D) All the above

Answer: Option D

**Question No. 10**

**Pick up the in-correct statement from the following:**

(A) Correction for refraction is always negative

(B) Correction for parallax is always positive

(C) Correction for semi-diameter is always negative

(D) Correction for dip is always negative

Answer: Option C

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**Question No. 11**

If  $\theta$  and  $\delta$  be the latitude of a place and declination of a star respectively, the upper culmination of the star will be north of zenith if its zenith distance, is

- (A)  $\delta - \theta$
- (B)  $\theta - \delta$
- (C)  $\theta + \delta$
- (D)  $(\theta + \delta)/2$

Answer: Option A

**Question No. 12**

The sidereal day is the time interval between two successive upper transits of

- (A) Mean sun
- (B) First point of Aries
- (C) First point of Libra
- (D) The polar star

Answer: Option B

**Question No. 13**

An aerial photograph may be assumed as

- (A) Parallel projection
- (B) Orthogonal projection
- (C) Central projection
- (D) None of these

Answer: Option C

**Question No. 14**

The slotted template method

- (A) Is prepared, by graphical method
- (B) Is suitable for large areas with less control
- (C) Is rapid and accurate
- (D) All the above

Answer: Option D

**Question No. 15**

The latitude of the observer's position, is

- (A) Elevation of the elevated pole
- (B) Declination of the observer's zenith
- (C) Angular distance along the observer's meridian between equator and the observer
- (D) All the above

Answer: Option D

**Question No. 16**

Triangulation surveys are carried out for locating

- (A) Control points for surveys of large areas
  - (B) Control points for photogrammetric surveys
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- (C) Engineering works, i.e. terminal points of long tunnels, bridge abutments, etc.
  - (D) All the above
- Answer: Option D

**Question No. 17**

**Pick up the correct statement for horizontal photographs.**

- (A) Parallel lines do not appear parallel in central projection
- (B) The two sides of a road meet at the vanishing point
- (C) The lines parallel to the negative plane are projected as parallel lines
- (D) All the above

Answer: Option D

**Question No. 18**

**The displacement of the pictured position of a point of  $h$  elevation on a vertical photograph taken with a camera of 30 cm focal length, from an altitude of 3000 m, is**

- (A) 4.4 mm
- (B) 5.5 mm
- (C) 6.5 mm
- (D) 7.5 mm

Answer: Option D

**Question No. 19**

**Pick up the correct statement from the following:**

- (A) The horizontal direction of the pole is called astronomical north
- (B) The angle between the direction of true north and the direction of a survey line is called astronomical bearing
- (C) The astronomical bearing is generally called azimuth
- (D) All the above

Answer: Option D

**Question No. 20**

**A nautical mile is**

- (A) one minute arc of the great circle passing through two points
- (B) one minute arc of the longitude
- (C) 1855.109 m
- (D) All the above

Answer: Option D

**Question No. 21**

**Pick up the correct statement from the following:**

- (A) Centre of the celestial sphere is taken as the position of the observer
- (B) Centre of the celestial sphere is taken as the centre of the earth
- (C) Stars move and maintain their relative positions
- (D) All the above

Answer: Option D

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**Question No. 22**

**Pick up the correct statement from the following:**

- (A) One degree of longitude has greatest value at the equator
- (B) One degree of longitude has greatest value at the poles
- (C) One degree of longitude has the same value everywhere
- (D) One degree of latitude decreases from the equator to the poles

Answer: Option A

**Question No. 23**

**If ' $\delta$ ' is the declination of the star and ' $\varphi$ ' is the latitude of the observer, then the azimuth of the star at elongation is given by**

- (A)  $\sin z = \sec \varphi \cdot \cos \delta$
- (B)  $\cos z = \sec \varphi \cdot \cos \delta$
- (C)  $\tan z = \sec \varphi \cdot \cos \delta$
- (D) None of these

Answer: Option A

**Question No. 24**

**Pick up the incorrect statement from the following. High oblique photographs**

- (A) May have tilt up to 30°
- (B) May include the image of the horizon
- (C) May not include the image of the horizon
- (D) None of these

Answer: Option D

**Question No. 25**

**If ' $\delta$ ' is the declination of the star and ' $\varphi$ ' is the latitude of the observer then the hour angle of the star at elongation is given by**

- (A)  $\sin H = \tan \varphi \cdot \cot \delta$
- (B)  $\cos H = \tan \varphi \cdot \cot \delta$
- (C)  $\tan H = \tan \varphi \cdot \cot \delta$
- (D) None of these

Answer: Option B

**Question No. 26**

**If ' $f$ ' is the focal length of the camera lens and ' $\theta$ ' is the angle of tilt, the distance of the plumb point from the principal point will be**

- (A)  $f \sin \theta$
- (B)  $f \cos \theta$
- (C)  $f \tan \theta$
- (D)  $f \sec \theta$

Answer: Option C

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**Question No. 27**

The coverage is least if photography is

- (A) High oblique
- (B) Low oblique
- (C) Vertical
- (D) None of these

Answer: Option C

**Question No. 28**

The latitude ( $\lambda$ ) of a place and the altitude ( $\alpha$ ) of the pole are related by

- (A)  $\lambda = \alpha$
- (B)  $\lambda = 90^\circ - \alpha$
- (C)  $\lambda = \alpha - 90^\circ$
- (D)  $\lambda = 180^\circ - \alpha$

Answer: Option A

**Question No. 29**

The principal line is the line joining the principal point and

- (A) Nadir
- (B) Isocenter
- (C) Perspective centre
- (D) None of these

Answer: Option B

**Question No. 30**

The parallax equation  $\Delta p = Bm\Delta h/H - h$  is applicable to entire overlap of the photographs only if parallax is measured

- (A) Normal to base line
- (B) Parallel to base line
- (C) Both (a) and (b)
- (D) Neither (a) nor (b)

Answer: Option B

**Question No. 31**

If ' $\delta$ ' is the declination of the Polaris and ' $\lambda$ ' is the latitude of the place, the azimuth of the Polaris, is

- (A)  $\cos \delta / \cos \lambda$
- (B)  $\cos (90^\circ - \delta) / \cos (90^\circ - \lambda)$
- (C)  $\sin (90^\circ - \delta) / \sin (90^\circ - \lambda)$
- (D)  $\tan (90^\circ + \delta) / \tan (90^\circ + \lambda)$

Answer: Option A

**Question No. 32**

The relief displacement of a building 72 m high on photograph is 7.2 mm and its top appears 10 cm away from principal point. The flying height of the camera, is

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- (A) 500 m
- (B) 1000 m
- (C) 1500 m
- (D) 2000 m

Answer: Option B

**Question No. 33**

**23 cm × 23 cm photographs are taken from a flying height with a camera of focal length of 3600 m and 15.23 cm respectively. A parallax difference of 0.01 mm represents**

- (A) 1 m
- (B) 2 m
- (C) 4 m
- (D) 8 m

Answer: Option A

**Question No. 34**

**The most convenient co-ordinate system for specifying the relative positions of heavenly bodies on the celestial sphere, is**

- (A) Altitude and azimuth system
- (B) Declination and hour angle system
- (C) Declination and right ascension system
- (D) Declination and altitude system

Answer: Option C

**Question No. 35**

**Pick up the correct statement from the following:**

- (A) The star's movement is apparent due to the actual steady rotation of the earth about its axis
- (B) The stars move round in circular concentrated parts
- (C) The centre of the circular paths of stars is the celestial pole
- (D) All the above

Answer: Option D

**Question No. 36**

**International Date Line is located along**

- (A) Standard meridian
- (B) Greenwich meridian
- (C) Equator
- (D) 180° longitude

Answer: Option D

**Question No. 37**

**Homologous points are**

- (A) Opposite corners of a photograph
  - (B) Nodal points of the camera lens
  - (C) Corresponding points on the ground and photograph
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(D) Plumb points of stereo pair of photographs

Answer: Option C

**Question No. 38**

**The point on the celestial sphere vertically below the observer's position, is called**

- (A) Zenith
- (B) Celestial point
- (C) Nadir
- (D) Pole

Answer: Option C

**Question No. 39**

**If  $\alpha$  is the observed altitude, the refraction correction in seconds, is**

- (A)  $58'' \cot \alpha$
- (B)  $58'' \tan \alpha$
- (C)  $58 \sin \alpha$
- (D)  $58 \cos \alpha$

Answer: Option A

**Question No. 40**

**Polaris is usually observed for the determination of the azimuth when it is**

- (A) At culmination
- (B) At elongation
- (C) Neither at culmination nor at elongation
- (D) Either at culmination or at elongation

Answer: Option B

**Question No. 41**

**The station pointer is generally used in**

- (A) Triangulation surveying
- (B) Astronomical surveying
- (C) Hydrographical surveying
- (D) Photogrammetric surveying

Answer: Option C

**Question No. 42**

**While making astronomical observations, the observer is mainly concerned with**

- (A) The direction of the vertical, the axis of rotation of the instrument
- (B) The direction of the poles of the celestial sphere
- (C) The direction of the star from the instrument
- (D) All the above

Answer: Option D

**Question No. 43**

**Right ascension of a heavenly body is its equatorial angular distance measured**

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- (A) Westward from the first point of Libra
- (B) Eastward from the first point of Aeries
- (C) Westward from the first point of Aeries
- (D) Eastward from the first point of Libra

Answer: Option B

**Question No. 44**

**The correction applied to the measured base of length 'L' is**

- (A) Tension =  $(P - P_s)L/AE$
- (B) Sag =  $L^3w^2/24P^2$  where  $w$  is the weight of tape/m
- (C) Slope =  $(h^2/2L) + (h^4/8L^3)$  where  $h$  is height difference of end supports
- (D) All the above

Answer: Option D

**Question No. 45**

**Pick up the in-correct statement from the following:**

- (A) Apparent solar time is measured from the lower transit of the true sun
- (B) Mean solar time is measured from the lower transit of the mean sun
- (C) Sidereal time is measured from the lower transit of the first point of Aries
- (D) Sidereal time is measured from the upper transit of the first point of Aries

Answer: Option D

**Question No. 46**

**Pick up the correct statement from the following:**

- (A) Aerial photographs may be either vertical or oblique
- (B) Vertical photographs are taken with the axis of camera pointing vertically downward
- (C) Vertical photographs are used for most accurate maps
- (D) All the above

Answer: Option D

**Question No. 47**

**Pick up the correct statement from the following:**

- (A) Ursa Minor's remains always north of pole star
- (B) Polar star remains always north of Polaris
- (C) Polaris remains always north of Ursa Minor's
- (D) Ursa Minor's pole star and Polaris are the names of the same star

Answer: Option D

**Question No. 48**

**The following points form a pair of homologous points:**

- (A) Photo principal point and ground principal point
- (B) Photo isocenter and ground isocenter
- (C) Photo plumb point and ground plumb point
- (D) All the above

Answer: Option D

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**Question No. 49**

**Pick up the correct statement from the following:**

- (A) The measured stereoscopic base of photographs is obtained by dividing the air base in metres by the mean scale of the photograph
- (B) The difference between the absolute parallax of two points depends upon the difference in their elevations
- (C) The line joining the principal point of a photograph and the transferred principal point of the adjoining photograph, is called stereoscopic base
- (D) All the above

Answer: Option D

**Question No. 50**

**Pick up the incorrect statement from the following:**

- (A) Latitudes north of the equator are taken as positive
- (B) Latitudes south of the equator are taken as negative
- (C) Longitudes east of Greenwich are taken as negative
- (D) Longitudes west of Greenwich are taken as positive

Answer: Option C

**Question No. 51**

**Pick up the correct statement from the following:**

- (A) The sun's right ascension increases for 0 h to 24 h when it returns to the First point of Aries
- (B) The maximum declination of the sun increases up to  $23\frac{1}{2}^{\circ}$  N on about 21st June
- (C) The minimum declination of the sun is zero' on 22nd September
- (D) All the above

Answer: Option D

**Question No. 52**

**The main object of the astronomer to obtain**

- (A) Astronomical latitude
- (B) Astronomical longitude
- (C) Astronomical bearing
- (D) All of these

Answer: Option D

**Question No. 53**

**Pick up the correct statement from the following:**

- (A) If the applied tension to the tape is more than the standard, the tension correction is positive
- (B) If the applied tension to the tape is less than the standard, the tension correction is negative
- (C) If the temperature during measurement is greater than the standard temperature, the temperature correction is positive
- (D) All the above

Answer: Option D

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**Question No. 54**

**Pick up the correct statement from the following:**

- (A) Sidereal time at any instant is equal to the hour angle of the first point of Aries
- (B) Local sidereal time of any place is equal to the right ascension of its meridian
- (C) Sidereal time is equal to the right ascension of a star at its upper transit
- (D) All the above

Answer: Option D

**Question No. 55**

**The latitude of a place was obtained by subtracting the zenith distance of a star from its declination, the observed star was between**

- (A) Horizon and equator
- (B) Equator and zenith
- (C) Zenith and pole
- (D) Pole and horizon

Answer: Option C

**Question No. 56**

**The stereo plotting instruments are generally manufactured on the principle of**

- (A) Optical projection
- (B) Optical mechanism projection
- (C) Mechanical projection
- (D) All the above

Answer: Option D

**Question No. 57**

**The altitudes of a circumpolar star at culminations are  $70^\circ$  and  $10^\circ$ , both culminations being north of zenith. The latitude of the place, is**

- (A)  $80^\circ$
- (B)  $70^\circ$
- (C)  $60^\circ$
- (D)  $40^\circ$

Answer: Option D

**Question No. 58**

**If the general ground level of any area is 10% of the flying height, the principal points may be used as the centres of radial directions for small scale mapping even in tilted photograph up to**

- (A)  $1^\circ$
- (B)  $2^\circ$
- (C)  $3^\circ$
- (D)  $4^\circ$

Answer: Option C

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**Question No. 59**

**The plane at right angle to the zenith-nadir line and passing through the centre of the earth, is called**

- (A) Rational horizon
- (B) True horizon
- (C) Celestial horizon
- (D) All the above

Answer: Option D

**Question No. 60**

**The equation which is obtained by multiplying each equation by the coefficient of its un-knowns and by adding the equations thus formed, is known as**

- (A) Observation equation
- (B) Conditional equation
- (C) Normal equation
- (D) None of these

Answer: Option C

**Question No. 61**

**Limiting gradient for locating the base line on evenly-sloping ground, is**

- (A) 1 in 12
- (B) 1 in 10
- (C) 1 in 8
- (D) 1 in 6

Answer: Option A

**Question No. 62**

**The circle in which a plane tangent to the earth's surface at the point of observation, intersects the celestial sphere, is called**

- (A) Visible horizon
- (B) Sensible horizon
- (C) Celestial horizon
- (D) True horizon

Answer: Option B

**Question No. 63**

**The great circle along which the sun appears to trace on the celestial sphere with earth as centre during the year, is called**

- (A) Equator
- (B) Celestial equator
- (C) Ecliptic
- (D) None of these

Answer: Option C

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**Question No. 64**

The foot of the perpendicular on the picture plane through the optical centre of the camera lens, is known as

- (A) Isocenter
- (B) Principal point
- (C) Perspective centre
- (D) Plumb line

Answer: Option B

**Question No. 65**

In triangulation surveys

- (A) The area is divided into triangular figures
- (B) Control stations are located from which detailed surveys are carried out
- (C) Sides are not measured excepting the base line
- (D) All the above

Answer: Option D

**Question No. 66**

The First Point of Aeries

- (A) Is the point in the celestial sphere where zero meridian crosses the celestial equator
- (B) Is usually denoted by the Greek letter  $\gamma$
- (C) Is located near the very conspicuous rectangle of stars in the constellations of Pegasus and Andromeda
- (D) All the above

Answer: Option D

**Question No. 67**

The longitudes of two places at latitude  $60^\circ$  N are  $93^\circ$  E and  $97^\circ$  W. Their departure is

- (A) 5100 nautical miles
- (B) 5700 nautical miles
- (C) 120 nautical miles
- (D) 500 nautical miles

Answer: Option B

**Question No. 68**

$\alpha$  and  $\beta$  are the angles subtended by a point of elevation  $h$  at their air station with respective plumb points. Photo scale and focal length of the lens being ' $S$ ' and ' $f$ ' respectively. Parallax displacement of the point due to relief, is

- (A)  $h \tan \alpha / S$
- (B)  $h \tan \beta / S$
- (C)  $h (\tan \alpha + \tan \beta) / S$
- (D)  $h (\tan \alpha - \tan \beta) / S$

Answer: Option C

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**Question No. 69**

In a spherical triangle ABC right angled at C,  $\sin b$  equals to

- (A)  $\sin c \sin B$
- (B)  $\cos c \cos B$
- (C)  $\tan c \tan B$
- (D)  $\sin c \cos B$

Answer: Option A

**Question No. 70**

The difference of height of two points whose parallax difference is 0.8 mm on a pair of stereo pair taken from a height 'H' is 100 m. If mean photo base is 95.2 mm, the flying height is

- (A) 8,000 m
- (B) 10,000 m
- (C) 12,000 m
- (D) 14,000 m

Answer: Option C

**Question No. 71**

For plane ground the scale of a vertical photograph will be same as that of a tilted photograph along the photo parallel through

- (A) Isocenter
- (B) Plumb point
- (C) Principal point
- (D) None of these

Answer: Option A

**Question No. 72**

Assuming human normal vision distance 25 cm, smallest measurable angle 20", and intraocular distance 6.5 cm, the smallest depth to be discerned is

- (A) 0.1 mm
- (B) 0.5 mm
- (C) 1.00 mm
- (D) 1.1 mm

Answer: Option A

**Question No. 73**

The altitude of a circumpolar star is maximum when it is

- (A) At east elongation
- (B) At upper culmination
- (C) At west elongation
- (D) At lower culmination

Answer: Option B

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**Question No. 74**

If  $v$ ,  $t$  and  $f/H$  are the ground speed of the aircraft, the shutter speed of the camera and the scale of the photograph respectively, then the amount of image displacement

- (A)  $i = v \cdot t \cdot H/f$
- (B)  $i = v \cdot f/t \cdot H$
- (C)  $i = v \cdot t \cdot (f/H)$
- (D)  $i = t \cdot H/v \cdot f$

Answer: Option C

**Question No. 75**

The negative sign is assigned to

- (A) Reduction to mean sea level
- (B) Correction for horizontal alignment
- (C) Correction for slope
- (D) All the above

Answer: Option D

**Question No. 76**

The height displacement on a vertical photograph

- (A) Increases as the horizontal distance increases from the principal point
- (B) Increases as the ground elevation increases
- (C) Decreases as the flying height increases
- (D) All the above

Answer: Option D

**Question No. 77**

The distance between the minor control point and the principal point should be equal to

- (A) Base line of the left photograph of stereo pair
- (B) Base line of the right photograph of stereo pair
- (C) Sum of the base lines of stereo pair
- (D) Mean of the base lines of the stereo pair

Answer: Option D

**Question No. 78**

The relation between the air base ( $B$ ), photographic base ( $b$ ), flying height ( $H$ ) and the focal length ( $f$ ) of a vertical photograph, is

- (A)  $B = bH/f$
- (B)  $B = f/bH$
- (C)  $B = b/fH$
- (D)  $B = H/bf$

Answer: Option A

**Question No. 79**

The true and mean suns occupy the same meridian at the same time on

- (A) April 15
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- (B) June 14
  - (C) September 1
  - (D) All the above
- Answer: Option D

**Question No. 80**

**Latitude of a place is the angular distance from**

- (A) Greenwich to the place
- (B) Equator to the poles
- (C) Equator to the nearer pole
- (D) None of these

Answer: Option D

**Question No. 81**

**The want of correspondence in stereo-photographs**

- (A) Is a good property
- (B) Is a function of tilt
- (C) Is not affected by the change of flying height between photographs
- (D) Is minimum when  $\theta$  is  $3^\circ$

Answer: Option B

**Question No. 82**

**The hour angle of the heavenly body for Greenwich meridian equals the hour angle of the body for any other meridian + longitude:**

- (A) Mean sun
- (B) True sun
- (C) Vernal equinox
- (D) All the above

Answer: Option D

**Question No. 83**

**The nautical mile is the length of**

- (A) 1 minute of latitude
- (B) 1 minute of longitude
- (C) 1 degree of latitude
- (D) 1 degree of longitude

Answer: Option B

**Question No. 84**

**The necessary geometrical condition for triangulation adjustment is:**

- (A) The sum of the angles around a station should be  $360^\circ$
- (B) The sum of the three angles of a plane triangle should be  $180^\circ$
- (C) The sum of the eight angles of a braced quadrilateral should be  $360^\circ$
- (D) All the above

Answer: Option D

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**Question No. 85**

**The great circle which passes through the zenith, nadir and the poles, is known as**

- (A) Meridian
- (B) Vertical circle
- (C) Prime vertical
- (D) None of these

Answer: Option A

**Question No. 86**

**The point where vertical line passing through the perspective centre intersects the plane of the photograph, is known as**

- (A) Photo plumb point
- (B) Plumb point
- (C) Nadir point
- (D) Isocenter

Answer: Option A

**Question No. 87**

**Stellar astronomy deals with**

- (A) Plane surveying
- (B) Geodetic surveying
- (C) Star observations
- (D) Planet observations

Answer: Option C

**Question No. 88**

**The point where a vertical line through the optical centre of the camera lens intersects the ground, is known as**

- (A) Ground principal point
- (B) Ground plumb point
- (C) Iso-centre
- (D) Perspective centre

Answer: Option B

**Question No. 89**

**The altitude of a heavenly body is its angular distance, measured on the vertical circle passing through the body, above**

- (A) Equator
- (B) Horizon
- (C) Pole
- (D) None of these

Answer: Option B

**Question No. 90**

**A star may culminate at zenith if its declination is**

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- (A) Greater than the longitude of the place
- (B) Less than the latitude of the place
- (C) Equal to the latitude of the place
- (D) None of these

Answer: Option C

**Question No. 91**

**'H' is the flying height above mean ground level and 'f' is the principal distance of a vertical photograph. The mean scale of the photographs is**

- (A)  $H \cdot f$
- (B)  $H/f$
- (C)  $f/H$
- (D)  $H + f$

Answer: Option C

**Question No. 92**

**If the image of a triangulation station of R.L. 500 m is 4 cm from the principal point of a vertical photo taken from an altitude of 2000 m, above datum, the height displacement will be**

- (A) 2 mm
- (B) 4 mm
- (C) 6 mm
- (D) 10 mm

Answer: Option D

**Question No. 93**

**Latitude of the observer's position is equal to altitude of**

- (A) North pole
- (B) Pole star
- (C) Celestial pole
- (D) All the above

Answer: Option C

**Question No. 94**

**The flying height of the camera is 1,000 m above mean ground level, the distance of the top of a building from a nadir point is 10 cm and the relief displacement of building is 7.2 mm. The height of the building, is**

- (A) 52 m
- (B) 62 m
- (C) 72 m
- (D) 82 m

Answer: Option C

**Question No. 95**

**The meridian of a place is**

- (A) A great circle passing through the place and the poles

- (B) A great circle whose plane is perpendicular to the axis of rotation and it also passes through the place
- (C) A semi-circle which passes through the place and is terminated at the poles
- (D) An arc of the great circle which passes through the place and is perpendicular to the equator

Answer: Option C

**Question No. 96**

**The orthogonal projection of the perspective centre on a tilted photograph, is called**

- (A) Nadir
- (B) Isocenter
- (C) Principal point
- (D) Plumb point

Answer: Option C

**Question No. 97**

**When a star is between the pole and the horizon, the relationship between latitude ( $\lambda$ ), zenith distance ( $z$ ) and declination  $\delta$ , is**

- (A)  $\theta = z + \delta$
- (B)  $\theta = \delta - z$
- (C)  $\theta = 180^\circ - (z + \delta)$
- (D)  $\theta = (z + \delta) - 180^\circ$

Answer: Option C

**Question No. 98**

**Pick up the correct statement from the following:**

- (A) Refraction correction is zero when the celestial body is in the zenith
- (B) Refraction correction is 33' when the celestial body is on the horizon
- (C) Refraction correction of celestial bodies depends upon their altitudes
- (D) All the above

Answer: Option D

**Question No. 99**

**Pick up the incorrect statement from the following. In a spherical triangle**

- (A) Every angle is less than two right angles
- (B) Sum of the three angles is equal to two right angles
- (C) Sum of the three angles less than six right angles and greater than two right angles
- (D) Sum of any two sides is greater than the third

Answer: Option B

**Question No. 100**

**In field astronomy, the quantities observed are entirely**

- (A) Lengths
  - (B) Angles
  - (C) Heights
  - (D) All of these
-

Answer: Option B

**Question No. 101**

**Equation of time which is the difference between apparent solar time and mean solar time at any instant, vanishes during one year**

- (A) Once
- (B) Twice
- (C) Thrice
- (D) Four times

Answer: Option D

**Question No. 102**

**For mapping any country**

- (A) Geodetic triangulation of greatest possible sides and accuracy is carried out
- (B) Primary triangles are broken down into secondary triangles of somewhat lesser accuracy
- (C) Secondary triangles are further broken into third and fourth order triangles, the points of which are used for detail surveys
- (D) All the above

Answer: Option D

**Question No. 103**

**Pick up the incorrect statement from the following. The angular distance of heavenly bodies on observer's meridian measured from the pole, is**

- (A) Co-declination
- (B) Co-altitude
- (C) Co-latitude
- (D) Polar distance

Answer: Option A

**Question No. 104**

**Longitude of a place is the angular distance between the meridian of the place and**

- (A) The standard meridian
- (B) The international date line
- (C) That of Greenwich
- (D) Both (a) and (c) of above

Answer: Option D

**Question No. 105**

**The sun's declination remains north between**

- (A) March 21 to June 21
- (B) June 21 to September 21
- (C) September 21 to December 21
- (D) Both (a) and (b) of above

Answer: Option D

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**Question No. 106**

The scale of a tilted photograph of focal length  $f$ , taken from an altitude  $H$ , along the plate parallel through plumb point, is

- (A)  $f/H \sec \theta$
- (B)  $f \sec \theta/H$
- (C)  $f/H$
- (D)  $f/H \cos \frac{1}{2}\theta$

Answer: Option B

**Question No. 107**

G.M.T. corresponding to given mean time, equals

- (A) L.M.T. - East longitude in time
- (B) L.M.T. + East longitude in time
- (C) L.M.T. - West longitude in time
- (D) None of these

Answer: Option A

**Question No. 108**

The scale of the photography taken from a height of 300 m, with a camera of focal length 15 cm, is

- (A) 1 : 10,000
- (B) 1 : 15,000
- (C) 1 : 20,000
- (D) 1 : 30,000

Answer: Option C

**Question No. 109**

Rotation of the camera at exposure about horizontal axis normal to the line of flight, is known as

- (A) Swing
- (B) Tilt
- (C) Tip
- (D) None of these

Answer: Option C

**Question No. 110**

Pick up the correct statement from the following:

- (A) The angle between the plane of the negative and the horizontal plane containing perspective axis is the tilt of the photograph
- (B) The direction of maximum tilt is defined by the photo principal line
- (C) The principal plane is truly vertical plane which contains perspective centre as well as principal point and plumb point
- (D) All the above

Answer: Option D

---

**Question No. 111**

**In observations of equal precision, the most probable values of the observed quantities are those that render the sum of the squares of the residual errors a minimum, is the fundamental principle of**

- (A) Gauss' Mid Latitude formula
- (B) D'Alembert's method
- (C) Legendre's method
- (D) Least square method

Answer: Option D

**Question No. 112**

**The station which is selected close to the main triangulation station, to avoid intervening obstruction, is not known as**

- (A) Satellite station
- (B) Eccentric station
- (C) False station
- (D) Pivot station

Answer: Option D

**Question No. 113**

**A plate parallel is the line on the plane of the negative**

- (A) Parallel to the principal line
- (B) Perpendicular to the principal line
- (C) Along the bisector of the angle between the principal line and a perpendicular line through principal plane
- (D) None of these

Answer: Option B

**Question No. 114**

**The shortest distance between two places measured along the surface of the earth, is**

- (A) Length of the equator between their longitudes
- (B) Length of the parallel between their longitudes
- (C) Length of the arc of the great circle passing through them
- (D) None of these

Answer: Option C

**Question No. 115**

**The angular distance of a heavenly body from the equator, measured along its meridian, is called**

- (A) Declination
- (B) Altitude
- (C) Zenith distance
- (D) Co-latitude

Answer: Option A

---

**Question No. 116**

**Pick up the correct statement from the following. The difference between the longitudes of the places is obtained.**

- (A) By subtracting their longitudes if places are in the same hemisphere
- (B) By adding their longitudes if places are in the different hemispheres
- (C) By subtracting the sum of their longitudes exceeding  $180^\circ$  from  $360^\circ$  if places are in different hemispheres
- (D) All the above

Answer: Option C

**Question No. 117**

**The prime vertical passes through**

- (A) The east point of the horizon
- (B) The west point of the horizon
- (C) The zenith point of the observer
- (D) All the above

Answer: Option D

**Question No. 118**

**If 16 flight lines are run perpendicular to an area 30 km wide, their spacings on a photographic map on scale 1 : 50,000 , will be**

- (A) 1 cm
- (B) 2 cm
- (C) 3 cm
- (D) 4 cm

Answer: Option D

**Question No. 119**

**The length of a parallel of  $\lambda$  latitude between two meridians is equal to difference in longitudes multiplied by**

- (A)  $\sin \lambda$
- (B)  $\cos \lambda$
- (C)  $\tan \lambda$
- (D)  $\cot \lambda$

Answer: Option B

**Question No. 120**

**For adjusting a quadrilateral whose both the diagonals are observed, the equations of conditions involved, are**

- (A) Two angle equations and two side equations
- (B) One angle equation and three side equations
- (C) Three angle equations and one side equation
- (D) None of these

Answer: Option C

---

**Question No. 121**

**The zenith is the point on the celestial sphere**

- (A) East of observer
- (B) West of observer
- (C) North of observer
- (D) South of observer

Answer: Option D

**Question No. 122**

**Rotation of the camera at exposure about its vertical axis, is known as**

- (A) Swing
- (B) Tilt
- (C) Tip
- (D) None of these

Answer: Option A

**Question No. 123**

**In a spherical triangle  $ABC$ , right angled at  $C$ ,  $\sin b$  equals**

- (A)  $\sin a \cos A$
- (B)  $\cos a \sin A$
- (C)  $\tan a \cot A$
- (D)  $\cot A \tan a$

Answer: Option C

**Question No. 124**

**The position of the sun when its north declination is maximum is known as**

- (A) Vernal equinox
- (B) Autumnal equinox
- (C) Summer solstice
- (D) Winter solstice

Answer: Option C

**Question No. 125**

**Sidereal day**

- (A) Is the period of time taken by the earth in making a complete rotation with reference to stars
- (B) Is slightly shorter than an ordinary solar day
- (C) Is divided into the conventional hours, minutes and seconds
- (D) All the above

Answer: Option D

**Question No. 126**

**If  $\theta$  and  $\delta$  be the latitude of an observer and declination of a heavenly body respectively, the upper culmination of the body will be south of zenith if its zenith distance, is**

- (A)  $\delta - \theta$
-



- (B)  $\theta - \delta$
- (C)  $\theta + \delta$
- (D)  $\frac{1}{2}(\theta - \delta)$

Answer: Option B

**Question No. 127**

With standard meridian as  $82^{\circ} 30'$  E the standard time at longitude  $90^{\circ}$  E is 8 h 30 m. The local mean time at the place will be

- (A) 7 h 00 m
- (B) 7 h 30 m
- (C) 8 h 00 m
- (D) 9 h 00 m

Answer: Option D

**Question No. 128**

The scale of a vertical photograph of focal length ' $f$ ' taken from height of ' $H$ ' metres above M.S.L., at a point of reduced level ' $h$ ', is

- (A)  $f/H$
- (B)  $f/(H + h)$
- (C)  $f/(H - h)$
- (D)  $(H - h)/f$

Answer: Option C

**Question No. 129**

The latitude of a place was obtained by subtracting the declination of a star from its zenith distance, the observed star was between

- (A) Horizon and equator
- (B) Zenith and pole
- (C) Equator and zenith
- (D) Pole and horizon

Answer: Option A

**Question No. 130**

**Systematic errors**

- (A) Always follow some definite mathematical law
- (B) Can be removed by applying corrections to the observed values
- (C) Are also known as cumulative errors
- (D) All the above

Answer: Option D

**Question No. 131**

**Pick up the correct statement from the following:**

- (A) The principal point coincides with plumb point on a true vertical photograph
  - (B) The top of a hill appears on a truly vertical photograph at greater distance than its bottom from the principal point
-

- (C) The top of a hill is represented on a vertical photograph at larger scale than the area of a nearby valley
- (D) All the above
- Answer: Option D

**Question No. 132**

**The position of a heavenly body on the celestial sphere can be completely specified by**

- (A) Its altitude and azimuth
- (B) Its declination and hour angle
- (C) Its declination and right ascension
- (D) All the above

Answer: Option D

**Question No. 133**

**A star is said to elongate**

- (A) When the star momentarily moves vertically
- (B) When the angle at the star of the spherical triangle is  $90^\circ$
- (C) When the star's declination is greater than the observer's latitude
- (D) All the above

Answer: Option D

**Question No. 134**

**The elevation of the star at elongation is obtained by**

- (A)  $\sin \alpha = \sin \varphi \operatorname{cosec} \delta$
- (B)  $\sin \alpha = \sin \varphi \sec \delta$
- (C)  $\sin \alpha = \cos \varphi \sec \delta$
- (D)  $\sin \alpha = \cos \varphi \operatorname{cosec} \delta$

Answer: Option A

**Question No. 135**

**If the altitudes of a star at its upper and lower transits are  $60^\circ 30'$  and  $19^\circ 30'$  respectively, the latitude of the place, is**

- (A)  $30^\circ$
- (B)  $35^\circ$
- (C)  $40^\circ$
- (D)  $45^\circ$

Answer: Option C

**Question No. 136**

**Circumpolar stars**

- (A) Rotate round the North Pole
- (B) Rotate round the celestial pole
- (C) Remain always above the horizon
- (D) Are seldom seen near the pole star

Answer: Option C

---

**Question No. 137**

**Pick up the incorrect statement from the following:**

- (A) In truly vertical photographs without relief angles are true at the plumb point
- (B) In tilted photographs without relief, angles are true at the iso-centre
- (C) In tilted photographs with relief, angles are true at the principal point
- (D) None of these

Answer: Option C

**Question No. 138**

**The nearest star is so far away from the earth that the directions to it from two diametrically opposite points on the earth differs less than**

- (A) 0.01 second
- (B) 0.001 second
- (C) 0.0001 second
- (D) None of these

Answer: Option C

**Question No. 139**

**Longitudes are measured from 0° to**

- (A) 180° eastward
- (B) 180° westward
- (C) 180° east or westward
- (D) 360° eastward

Answer: Option C

**Question No. 140**

**At eastern elongation, the pole star moves**

- (A) Eastward
- (B) Westward
- (C) Northward
- (D) Southward

Answer: Option C

**Question No. 141**

**The distance between the projection centre and the photograph, is called**

- (A) Principal distance
- (B) Principal line
- (C) Isocentric distance
- (D) Focal length

Answer: Option A

**Question No. 142**

**If  $E$  is the spherical excess and  $R$  the radius of the earth, the surface area of the triangle, is**

- (A)  $\pi R^2 E / 90^\circ$
-

(B)  $\pi R^2 E / 180^\circ$

(C)  $\pi R^2 E / 270^\circ$

(D)  $\pi R^2 E / 360^\circ$

Answer: Option B

**Question No. 143**

**Accidental errors**

(A) Do not follow any definite mathematical law

(B) Cannot be removed by applying corrections to the observed values

(C) Are generally small

(D) All the above

Answer: Option D

**Question No. 144**

**According to Napier's Rules of circular parts for a right angled triangle, sine of middle part equals the product of**

(A) Tangents of two adjacent parts

(B) Sines of two adjacent parts

(C) Cosines of two adjacent parts

(D) Both (a) and (b) above

Answer: Option D

**Question No. 145**

**The correction for parallax, is**

(A)  $- 8'' .8 \cos \alpha$

(B)  $+ .8'' \sin \alpha$

(C)  $+ 8'' .8 \cos \alpha$

(D)  $- 8'' .8 \cos \alpha$

Answer: Option C

**Question No. 146**

**Pick up the correct statement from the following:**

(A) North end of the polar axis is known as North Pole

(B) South end of the polar axis is known as South Pole

(C) Point where polar axis when produced northward intersects the celestial sphere, is known as north celestial pole

(D) All the above

Answer: Option D

**Question No. 147**

**The angle between the axis of earth and the vertical at the station of observation is called**

(A) Astronomical latitude

(B) Astronomical co-latitude

(C) Co-declination of star

(D) Declination of star

---

Answer: Option B

**Question No. 148**

The method of surveying by triangulation was first introduced by the Dutchman Snell in

- (A) 1600
- (B) 1615
- (C) 1630
- (D) 1650

Answer: Option B

**Question No. 149**

The scale of a tilted photograph of focal length  $f$  taken from an altitude  $H$ , along the plate parallel through principal point is

- (A)  $f/H \sec \theta$
- (B)  $f \sec \theta/H$
- (C)  $f/H$
- (D)  $f/H \cos \frac{1}{2}\theta$

Answer: Option A

**Question No. 150**

The declination and right ascension of the sun becomes  $23^\circ 27'$  N and  $90^\circ$  respectively on

- (A) March 21
- (B) June 21
- (C) September 21
- (D) December 22

Answer: Option B

**Question No. 151**

To obtain photographs of an area of 1000 m average elevation, on scale 1 : 30, 000, with a camera of 30 cm focal length, the flying height is

- (A) 4000 m
- (B) 5000 m
- (C) 6000 m
- (D) 7000 m

Answer: Option C

**Question No. 152**

The solar tidal force divided by lunar tidal force is

- (A)  $1/3$
- (B)  $1/2$
- (C)  $3/4$
- (D)  $5/4$

Answer: Option B

---

**Question No. 153**

**In a tropical year, the numbers of sidereal days are**

- (A) One less than mean solar days
- (B) One more than mean solar days
- (C) Equal to mean solar days
- (D) None of these

Answer: Option B

**Question No. 154**

**The point at which sun's declination changes from north to south, is known as**

- (A) First point of Aeries
- (B) First point of Libra
- (C) Vernal Equinox
- (D) Both (b) and (d) of the above

Answer: Option D

**Question No. 155**

**If  $\alpha$ ,  $H$ ,  $A$  and  $\delta$  be the altitude, hour angle, azimuth and declination of a circumpolar star at its elongation, in latitude  $\lambda$ , the following relation holds good**

- (A)  $\cos H = \tan \lambda / \tan \delta$
- (B)  $\sin \alpha = \sin \lambda / \sin \delta$
- (C)  $\sin A = \cos \delta / \cos \lambda$
- (D) All the above

Answer: Option D

**Question No. 156**

**Triangulation surveys are carried out for providing**

- (A) Planimetric control
- (B) Height control
- (C) Both planimetric and height control
- (D) None of these

Answer: Option C

**Question No. 157**

**The angle between the plane of the equator and the plane of the ecliptic, is known as obliquity of the ecliptic and its value is**

- (A)  $22^\circ 30'$
- (B)  $23^\circ 27'$
- (C)  $23^\circ 30'$
- (D)  $24^\circ 0'$

Answer: Option B

**Question No. 158**

**If  $S$  is the sum of three angles of a spherical triangle, the spherical excess equals**

- (A)  $S - 90^\circ$

- (B) S -  $180^\circ$
- (C) S -  $270^\circ$
- (D) S -  $360^\circ$

Answer: Option B

**Question No. 159**

**If the equatorial distance between two meridians is 100 km, their distance at  $60^\circ$  latitude will be**

- (A) 1000 km
- (B) 800 km
- (C) 600 km
- (D) 500 km

Answer: Option D

**Question No. 160**

**If two points differing by  $1^\circ$  of latitude and of the same longitude is 110 km apart on the earth, then two astronomical positions on the moon is about**

- (A) 10 km
- (B) 25 km
- (C) 30 km
- (D) 50 km

Answer: Option C

**Question No. 161**

**Spring tides are caused when**

- (A) Sun and moon are in line with earth
- (B) Solar tidal force acts opposite to lunar tidal force
- (C) Solar tidal force and lunar tidal force both coincide
- (D) None of these

Answer: Option C

**Question No. 162**

**The altitudes of a circumpolar star at culminations are  $70^\circ$  and  $10^\circ$ , both culminations being north of zenith. The declination of the star, is**

- (A)  $80^\circ$
- (B)  $70^\circ$
- (C)  $60^\circ$
- (D)  $50^\circ$

Answer: Option C

**Question No. 163**

**For any star to be a circumpolar star, its**

- (A) Declination must be  $0^\circ$
  - (B) Declination must be  $90^\circ$
  - (C) Distance from the pole must be less than the latitude of the observer
  - (D) Hour angle must be  $180^\circ$
-

Answer: Option C

**Question No. 164**

**At upper culmination, the pole star moves**

- (A) Eastward
- (B) Westward
- (C) Northward
- (D) Southward

Answer: Option B

**Question No. 165**

**The parallax of a point on the photograph is due to**

- (A) Ground elevation
- (B) Flying height
- (C) Length of air base
- (D) All the above

Answer: Option D

**Question No. 166**

**A star in northern sphere is said to transit**

- (A) When its altitude is maximum
- (B) When its azimuth is  $180^\circ$
- (C) When it is in south
- (D) All the above

Answer: Option D

**Question No. 167**

**Invar tapes used for measuring base lines, is made of nickel-iron alloy containing nickel**

- (A) 24 %
- (B) 36 %
- (C) 40 %
- (D) 60 %

Answer: Option B

**Question No. 168**

**The value of geo-centric parallax to be added to the observed altitude of sun is**

- (A)  $9'' \cos \alpha$
- (B)  $9'' \sin \alpha$
- (C)  $9'' \tan \alpha$
- (D)  $9'' \cot \alpha$

Answer: Option A

**Question No. 169**

**In a tropical year, the numbers of sidereal days are**

- (A) 365
-



(B) 365.2224

(C) 365.2422

(D) 366.2422

Answer: Option D

**Question No. 170**

**Homologous point is**

(A) Photo principal point

(B) Ground principal point

(C) Ground isocenter

(D) All the above

Answer: Option D

**Question No. 171**

**Perspective centre relates to**

(A) Parallel projection

(B) Orthogonal projection

(C) Central projection

(D) None of these

Answer: Option C

**Question No. 172**

**To have greatest coverage of the area, the type of photography used, is**

(A) High oblique

(B) Low oblique

(C) Vertical

(D) None of these

Answer: Option A

**Question No. 173**

**The moon rotates round the earth once in every**

(A) 29 days

(B) 29.35 days

(C) 29.53 days

(D) 30 days

Answer: Option B

**Question No. 174**

**The angle between the observer's meridian and declination circle of a heavenly body, is known as**

(A) Hour angle

(B) Azimuth

(C) Right ascension

(D) Declination

Answer: Option A

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**Question No. 175**

**Places having same latitude**

- (A) Lie on the parallel of the latitude
- (B) Are equidistant from the nearer pole
- (C) Are equidistant from both the poles
- (D) All the above

Answer: Option D

**Question No. 176**

**The product of the distances of plumb point and horizon point of a vertical photograph from its principal point, is**

- (A)  $f^2$
- (B)  $2f^2$
- (C)  $3f^2$
- (D)  $\frac{1}{2}f$

Answer: Option A

**Question No. 177**

**The net ground area of a vertical photograph 20 cm × 20 cm on scale 1 : 10,000 having overlaps 60% and 30%, is**

- (A) 0.50 sq km
- (B) 0.56 sq km
- (C) 0.60 sq km
- (D) 0.64 sq km

Answer: Option D

**Question No. 178**

**The Polaris remains below horizon at**

- (A)  $10^\circ N$
- (B)  $50^\circ N$  Latitude
- (C) Equator
- (D)  $5^\circ S$  latitude

Answer: Option D

**Question No. 179**

**The average eye base is assumed as**

- (A) 58 mm
- (B) 60 mm
- (C) 62 mm
- (D) 64 mm

Answer: Option D

**Question No. 180**

**The declination and right ascension of the sun becomes  $23^\circ 27' S$  and  $270^\circ$  respectively on**

- (A) March 21
-

- (B) June 21
  - (C) September 21
  - (D) December 22
- Answer: Option D

**Question No. 181**

**At western elongation, the pole star moves**

- (A) Eastward
- (B) Westward
- (C) Northward
- (D) Southward

Answer: Option D

**Question No. 182**

**The difference of parallax for a given difference in elevation is independent of**

- (A) Focal length of the camera
- (B) Overall size of the photo graphs
- (C) Percentage of overlap
- (D) All the above

Answer: Option D

**Question No. 183**

**The maximum error in radial line assumption, is**

- (A)  $h/H f \tan \theta$
- (B)  $h/H f^2 \tan \theta$
- (C)  $h/H f^2 \sin \theta$
- (D)  $h/H f \cos \theta$

Answer: Option A

**Question No. 184**

**The great circle whose plane is perpendicular to the axis of rotation of the earth, is called**

- (A) Equator
- (B) Terrestrial equator
- (C)  $0^\circ$  latitude
- (D) All the above

Answer: Option D

**Question No. 185**

**The rate of change of parallax  $dp/dh$  with respect to change in  $h$ , may be expressed as**

- (A)  $fB/(H - h)$
- (B)  $fB/(H - h)^2$
- (C)  $fB/(H + h)$
- (D)  $fB/(H + h)^2$

Answer: Option B

---

**Question No. 186**

**At lower culmination, the pole star moves**

- (A) Eastward
- (B) Westward
- (C) Northward
- (D) Southward

Answer: Option A

**Question No. 187**

**The principal plane contains**

- (A) Nadir point
- (B) Iso centre
- (C) Principal point
- (D) All the above

Answer: Option D

**Question No. 188**

**If a star whose declination is  $60^\circ$  N culminates at zenith, its altitude at the lower culmination, is**

- (A)  $10^\circ$
- (B)  $20^\circ$
- (C)  $30^\circ$
- (D)  $40^\circ$

Answer: Option C

**Question No. 189**

**Pick up the correct statement from the following:**

- (A) The plane passing through the perspective centre of a stereo pair and a ground point, is known as basal plane
- (B) Each pair of image points on stereo pair have their own basal plane
- (C) Relative orientation means reconstructing the basal plane
- (D) All the above

Answer: Option D

**Question No. 190**

**The Polaris describes a small circle round the pole whose radius is approximately**

- (A)  $1^\circ$
- (B)  $2^\circ$
- (C)  $3^\circ$
- (D)  $4^\circ$

Answer: Option A

**Question No. 191**

**The normal longitudinal overlap is generally kept**

- (A) 50 %
  - (B) 60 %
-

(C) 70 %

(D) 75 %

Answer: Option B

**Question No. 192**

**In a truly vertical photograph,**

(A) Principal point coincides the isocenter

(B) Iso-centre coincides the plumb point

(C) Plumb point coincides the principal point

(D) All the above

Answer: Option D

**Question No. 193**

**Parallax bar measures**

(A) Parallax

(B) Height

(C) Parallax difference

(D) Height difference

Answer: Option C

**Question No. 194**

**The time interval between successive transits of the moon, is**

(A) 24 hours 10 minutes

(B) 20 hours 25 minutes

(C) 24 hours 50 minutes

(D) 23 hours 50 minutes

Answer: Option C

**Question No. 195**

**From the principal point the horizon point lies on the principal line at a distance of**

(A)  $f \tan \theta$

(B)  $f \sin \theta$

(C)  $f \cot \theta$

(D)  $f \cos \theta$

Answer: Option A

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