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"Answer copy for Map G43S7"

PART I

[Eastings-21-30 and Northings 04-12]

ANSWERS OF EXERCISE 1

(a) (i) Surveyed tree at Panthawada- 265117
(ii) Δ224- 274063
(b) MahudiMoti is situated South East of Lakhnasar.
(c) The blue line indicates water channel. It indicates that the region receives seasonal rainfall.
(d) The black curved lines in G.S. 2607 indicate broken ground. These broken grounds are formed where the soil gets easily eroded due to floods.
(e) The distance along the metalled road between Kuchwada and Panthawada on the map is 11.5 cms
Scale given 2cms = 1 km
Therefore, ½ x 11.5 = 5.75 kms on the ground
(f) C.I. means Contour Interval. Contour height in G.S. 2707 is 200 metres.
(g) The people around Kuchawada carry out agriculture.
Reasons- 1. Presence of lined perennial well
2. Presence of cultivable land
(h) (i) 15r in G.S. 2207- Relative depth of lined perennial well
(ii) 10r in G.S. 2709- Relative height of sand dune
(i) (i) Lime kiln is the limestone furnace where lime stone is purified.
(ii) The yellow colour represents land used for cultivation and the green colour represents forests.

ANSWERS OF EXERCISE 2

(a) Rampura- 2805
(b) (i) Panthawada
(ii) Reasons- 1. Presence of Police station
2. Presence of Post office
(c) Scale represents the proportion between the distance on the map and the actual distance on the ground.
Scales are Simple statement, Representative Fraction and Linear scale
(d) SarvoNala is flowing towards South west.

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(e) **The distance between Santarwada and MaahudiMoti on the map is 10.3**
Scale given is 2 cms = 1 km
Therefore, ½ x 10.3 = 5.15 kms on the ground

(f) **(i) The dark brown dots represent sand dunes.**
(ii) They are formed due to strong winds that blow over the sandy areas forming mounds of sand.

(g) **3r in G.S. 2609 means relative depth of the lined perennial well.**

(h) **Black square in G.S. 2108 is the man made dry tank and the blue squares in G.S. 2508 means man made perennial tank.**

(i) **(i) Cart track –** } **See from the Symbol chart**
(ii) Lime kiln- }

(j) **R.F. means Representative Fraction. It is the ratio between the distance on the map and the corresponding distance on the actual ground. The R.F. of the map is 1:50,000**

ANSWERS OF EXERCISE 3

(a) **(i) Lime kiln- 286088**
(ii) 2910- Knolls

(b) **Eastings 24 to 27 = 3 grids and Northings 08 to 11 = 3 grids**
Each side of grid = 2 cms
Therefore, 3 grids = 6 cm
Scale given 2cm=1km
So, E- 24 to 27= ½ x 6= 3 km and N- 08 to 11 = 3km
Thus, 3 x 3= 9km²

(c) **(i) Blue spots around Kuchawada- Lined perennial well**
(ii) Irregular black line- broken ground

(d) **There is no habitation in the North West corner of the map due to the presence of the sand dunes.**

(e) **The number 208 in G.S. 2208 means Trigonometrical Station.**

(f) **(i) Metalled road**
(ii) The red dotted lines are path tracks

(g) **(i) The meaning of 1:50,000 means 1 unit on the map is equal to 50,000 units on the ground.**
(ii) Difference between Highest spot height .244 and Contour value 200 is 44 (244-200)

(h) **Seasonal rainfall.**
Reasons-1. Presence of lined perennial well
2. Presence of broken ground

(i) **Panthawada is situated North west of Panswala**

(j) **(i) (1) White colour stand for Open scrub**

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(2) Yellow colour stand for cultivable land
(ii) The number 172 in G.S. 2308 indicates milestone

ANSWERS OF EXERCISE 4

(a) (i) Temple near MahudiNani- 264046
(ii) Dry tank in G.S. 2308- 233083
(b) (i) The brown line is the contour line.
(ii) The number 200 in G.S. 2407 is the Spot height
(c) Jungle region- 2504 and Open scrub-2909
(d) In G.S. 2806 the drainage pattern is Trellis and in G.S. 2505, it is Dendritic pattern.
(e) The length of the main river 9.5 cm on the map
Scale given 2cm = 1 km
Therefore, ½ x 9.5= 4.75 kms on the ground
(f) (i) The Main power line means the line through which the electricity is supplied to areas.
(ii) The black curve lines in G.S. 2406 indicate broken ground.
(g) Physical features between MahudiMoti and Panthawada are Seasonal streams, trees, Open jungle, broken grounds, Sand dunes and Open scrub.
(h) (i) Compact settlement
(ii) Metalled road and Pack track is used between Rampur (Panswal) (2809) and Rampur (2805).
(i) (i) Lined Perennial Well- Symbol with a blue dot as indicated in G.S. 2306
(ii) Sand Dunes- Symbol with brown shades as indicated in G.S. 2309
(j) The north west part of the map is not suitable for agriculture since sand dunes are found there.

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PART II

[Eastings-30-38 and Northings 04-12]

ANSWERS OF EXERCISE 1

(a) Δ208- 227086
(b) Kuchawada- Compact settlement and Mahudi Nani is scattered settlement

(c) The word Lime in G.S. 2808 means Lime kiln which is a limestone furnace where limestone is purified.

(d) (i) Contour Interval
(ii) Representative Fraction

(e) (i) Highest spot height- .244 and Lowest Spot height- .183
(ii) Contour in G.S. 2309
(iii) The number 175 indicates milestone

(f) The black dotted line indicates Tehsil boundary

(g) (i) A saddle- 2706
(ii) Broken ground- 2607
(iii) Lime kiln- 2809
(iv) Covered tank- 2305

(h) Two occupations- Agriculture and Government service
Reasons- 1. Yellow patch which indicates cultivable land
2. Post Office and Police station indicates for government service

(i) Panswala is situated South East of Panthawda.

(j) Eastings21 to 30 = 8.5
Northings 04 to 12 = 8.5
Area 8.5 x 8.5 =72.25 kms²

ANSWERS OF EXERCISE 2

(a) Lined perennial well south of Santarwada- 256083

(b) Difference between Δ208 and .244-
Δ208 is the Trigonometrical station and is more accurate than Spot heights while .244 is a Spot height which indicates the height of a particular place but is not so accurate.

(c) (i) This area is a flat level land with its slope towards the south.
(ii) The dash line in G.S. 2408 indicates Pack track

(d) The distance between Mahudi Moti and SantarwadaAlong the cart track on the map is 10 cms
Scale given- 2cms = 1km
Therefore, ½ x 10 = 5 kms on the ground

(e) The river is flowing towards South.
Evidence- The spot height is decreasing from .183 to .181

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(f) **G.S. 2408- Disappearing drainage pattern**
G.S. 2606- Dendritic drainage pattern

(g) **Agriculture. It is a suitable for cultivation and has good supply of underground water through lined perennial well.**

(h) **(i) The brown lines indicate sand dunes.**
(ii) They indicate that it is a flat level land receiving less rainfall.

(i) **Sarvo Nala flows towards South West.**

(j) **(i) The people Hinduism religion.**
(ii) Panthawada is connected with Rampura, Santarwada and Kuchawada through metalled road.
(iii) Agriculture and Government service
(iv) Two facilities are- Post office and Police station

ANSWERS OF EXERCISE 3

(a) **(i) 216083- Surveyed Tree**
(ii) 258086- Covered Tank
(iii) 285094- Lime kiln
(iv) 239054- Temporary Hut

(b) **(i) Temple at Santarwada- 257088**
(ii) Cart and Metalled Road

(c) **15r in G.S. 2207 indicates the relative depth of the lined perennial well**

(d) **(i) 1:50,000 means 1 unit on the map is equal to 50,000 units on the ground**
(ii) If the scale of the map is 1:50,000 then everything on the map will be 50,000 times smaller than it is in reality.

(e) **Vertical grid lines 24 and 26 =2 grids = 4 cm**
Horizontal lines 10 and 12 = 2 grids =4 cm
Scale given – 2cm=1km
Area = ½ x 4 = 2 km
2 x 2 = 4 km²

(f) **In G.S. 2305, the blue squares indicate Perennial tank and red squares indicates temporary huts.**

(g) **Two sources of irrigation- Lined perennial well and streams**

(h) **The people of Santarwada follow Hinduism religion. The presence of temples indicates it.**

(i) **The length between Mahudi Moti and Mahudi Nani on the map is 4cm**
Scale given 2cms = 1 km
Therefore, ½ x 4 = 2km on the ground

(j) **Causeway- A raised masonry road over a small stream, but not a bridge.**

ANSWERS OF EXERCISE- 4

(a) **The distance between the point at 238100 and 249120 along the pack track is 5 cms on the map**
Scale given – 2cms = 1km
Therefore, ½ x 5 = 2.5 kms on the ground

(b) **Scale- It represents the proportion between the distance on the map and the distance on the ground.**
The different types of scales are-
1. Simple Statement
2. Representative Fraction
3. Linear Scale

(c) **Kuchawada is a Compact settlement.**

(d) **Due to the presence of Sand dunes, there is no habitation found in the North West part of the map.**

(e) **Landform in G.S. 2910 is Saddle.**

(f) **The occupation of the people of Panswala is lime kilning.**

(g) **'r' stands for Relative height or depth and Δ stands for Trigonometrical Station.**

(h) **(i) The streams in G.S. 2607 is flowing towards South.**
(ii) The length of the Sarvo Nala on the map is 8.5 cms
Scale given 2cms = 1km
Therefore, ½ x 8.5 = 4.25 kms on the ground
(iii) The difference between Contour height in G.S. 2805 and 2707 is 20 metres.

(i) **(i) Δ208- 227086**
(ii) One made feature in G.S. 2310 is Lined perennial well and one Natural feature is Sand dunes.
(iii) Ganodara is a scattered type of settlement.

(j) **Area of the map extract is 8.5 grids x 8.5 grids**

Each grid= 2cm = 1km

Thus, Area of map in kilometres is 8.5 x 8.5= 72.25 km²

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PART III

[EASTINGS 38-46 AND NORTHINGS 04-12]

ANSWERS OF EXERCISE 1

(a) Four man made features in G.S. 4410- (i) Lined perennial well (ii) Permanent huts (iii) Main power line (iv) Cart track

(b) Four natural features in G.S. 4104- (i) Seasonal streams (ii) Open scrub (iii) Dry tank (iv) Trees

(c) Area of the area covered by Eastings 42 to 44 and northings 07 to 09 is 4km²

(d) The symbol _._._._. in G.S. 4105 means Demarcated state boundary.

(e) (i) Convex Slope- 4404
(ii) Concave Slope- 4504
(iii) Cliff- 4504
(iv) A Ridge- 4505

(f) (i) 4408- Trellis drainage pattern
(ii) 4107- Dendritic drainage pattern
(iii) 3905- Dendritic drainage pattern

(g) Settlement pattern in G.S.3804 is Scattered while in G.S. 4410 is Compact.

(h) Compass direction of Vavdhara from Δ284 is South East and the bearing is 45°

ANSWERS OF EXERCISE 2

(a) (i) Dholva Nadi is flowing towards South West.
(ii) The spot height is decreasing from .292 to .281

(b) Highest contour height- 500m and Lowest contour height is 220m

(c) (i) Forestry is the most important occupation of the people.
(ii) The presence of green patches all around the map shows that people are engaged in forestry.

(d) Causeway- A raised masonry road over a small stream, but not a bridge.

(e) (i) Fairly dense mixed jungle- 4404

(ii) Open mixed jungle- 4108

(f) Contour value in G.S. 4211- 260m

(g) Cart tack is used by the people to travel from Deri to Vavdhara

(h) Eastings- These are vertical grid lines drawn on the topographical map, numbered from West to East. It increases in value eastwards.

(i) Northings- These are horizontal grid lines drawn on the topographical map, numbered from South to North. It increases in value northwards.

(j) C.I. means Contour Interval. It is the vertical distance between two contour lines which remains constant throughout the map.

(k) 4308- metalled road 4008- Pack track

(l) R.F. means Representative Fraction. It is the ratio between the distance on the map and the corresponding distance on the actual ground.

(m) Three physical divisions based on the relief features- Vegetative features, Hydrographic features and Contour features.

ANSWERS OF EXERCISE 3

(a) (i) Temple near Padar- 439107
(ii) Δ284- 386074
(iii) Covered tank near Vavdhara- 426046
(iv) Unlined well at Methipura- 426046

(b) G.S. 4505- Saddle

(c) The distance between Methipura and Dhibri on the map is 4.5 cms.
Scale given- 2cm=1km
Therefore, ½ x 4.5 = 2.25 kms on the ground

(d) G.S. 4211- Unmetalled road

(e) G.S. 4504- Concave Slope

(f) G.S. 4510- Small brown circles are knolls

(g) G.S. 4206- Arched shaped features are called Chattri

(h) Methipura is a Scattered settlement

(i) (i) Δ 284 is North west from Methipura
(ii) Vavdhara is South from Anvilya

(j) (i) Dholva Nadi is flowing towards South West
(ii) The Spot height is decreasing

(k) (i) 4107- Dendritic
(ii) 4408- Trellis

(l) Causeway- A raised masonry road over a small stream, but not a bridge.

ANSWERS OF EXERCISE 4

(a) (i) Settlement Anvilya- 413119
(ii) Spot height 303 in NW part- 383100
(iii) Chattri near Dhibri- 428067
(iv) Δ349 in northern part of the map- 431116

(b) (i) 4308- Trellis
(ii) 4107- Dendritic
(iii) 4506- Trellis
(iv) 3810- Radial

(c) Direction of Vavdhara from:
(i) Dhibri- South west
(ii) Deri- North East
(iii) Anvilya- South

(d) The distance along the pack track between the two points on the map is 6.5 cms
Scale given- 2 cms = 1km
Therefore, ½ x 6.5 = 3.25 kms

(e) Meander- G.S.4205

(f) .347 in G.S. 4405 means the height of a particular place above mean sea level.

(g) 240 in G.S. 4009 indicates Contour height

(h) Ridge

(i) The causeways indicate that the region is mountainous and receives seasonal rainfall.

(j) The green patch means the area has forests.

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PART IV

[EASTINGS 21-30 AND NORTHINGS 94-04]

ANSWERS OF EXERCISE 1

(a) (i) Lime kiln- 267018
(ii) Settlement Kotha- 225988
(iii) Δ168- 227946
(iv) 25r- 277983

(b) 25r in G.S. 2798 indicates Relative depth of lined perennial well

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(c) **Broken grounds are barren land. They are formed along the streams where the soil gets eroded due to floods.**

(d) **The length of the Sipu river on the map is 11.8**
Scale given- 2cms = 1km
Therefore, ½ x 11.8 = 5.9 kms on the ground..

(e) **Black dotted line indicates Tehsil boundary**

(f) **Direction of Bhakodar from Jorapura is North East**

(g) **G.S. 2698- Trellis and G.S. 2898- dendritic**

(h) **Open jungle, Dense jungle and Open scrub**

(i) **The arrow in G.S. 2399 indicates the direction of the river.**

(j) **(i) Dense jungle- 2297**
(ii) Aqueduct- 2301
(iii) Sluice- 2502

ANSWERS OF EXERCISE 2

(a) **(i) Sheet Rock- Contains stretch of horizontally embedded hard rocks which are exposed to the surface and are well polished and prominent due to the agents of erosion like wind and rain.**
(ii) Lime kiln- It is the limestone furnace where lime stone is purified.
(iii) 25r- The small 'r' indicates the relative height or depth of a particular point from the surrounding surface and not from the sea level.
(iv) Sluice- A sliding gate for controlling the flow of water.

(b) **Meander- 2897**

(c) **(i) C.I. means Contour Interval. It is the vertical difference between two contour lines which remains constant throughout the map.**
The C.I. is 20 metres.
(ii) 1. Spot height- It is represented on the map by a black dot in front of the number like .356, which indicates the height of that particular point above mean sea level.
2. Triangulated Height- It is represented by a triangle (Δ) beside a number which indicates its height above mean sea level like, Δ267.
3. Relative height- It is represented by a small 'r' which indicates the relative height or depth of a particular point from the surrounding surface and not from the sea level.

(d) **Statement scale- It is indicated by the statement '1 cm represents 1km' on the map which means 1 cm on the map represents 1 km on the ground.**
Statement scale is 2 cms = 1 km

(f) **Dotted line in G.S. 2495 is Areas of open scrub and in G.S. 2296 is Tehsil boundary**

(g) **Eastings 23 and 25 – 2 grids**
Northings 96 and 98- 2 grids

Each grid = 2cm and Scale given- 2cm = 1km
Therefore, 2 x 2 = 4km² is the area in kilometres

(h) 21r in G.S. 2501 indicates Relative depth of lined perennial well.

(i) Small dots are the silts and sediments

(j) (i) Sarod Nala is flowing towards South West
(ii) Drainage patterns-
1. 2698- Trellis
2. 2895- Dendritic

ANSWERS OF EXERCISE 3

(a) Villages are- Ganeshpura, Meda and Kotha

(b) (i) Lined perennial well on the North West part of Nandotra- 272945
(ii) Surveyed tree near the Godh- 227953

(c) Sipu river flows towards South west direction. It is filled with silts and sediments and has an island covered with sheet rock.

(d) Large numbers of broken lines indicates Broken ground.

(e) (i) R.F. means Representative Fraction. It is the ratio between the distance on the map and the corresponding distance on the actual ground.
(ii) 4 cm = 2km

$$\text{R.F} = \frac{\text{MD}}{\text{GD}} = \frac{4}{20{,}000} = 1/50{,}000 = 1:50{,}000$$

(f) The white patch in Sarod Nala is an island.

(g) Aqueduct- An artificial channel usually elevated and built of masonry, to carry water.
Causeway-A raised masonry road over a small stream, but it is not a bridge.
Sluice- A sliding gate for controlling the flow of water.

(h) The distance between Agdol and Kotha on the map is 6 cm
Scale given- 2cm = 1km
Therefore, ½ x 6 = 3 kms on the ground

(i) (i) Chief occupation- Agriculture
(ii) Presence of lined perennial well

(j) (i) Sarod Nala is a small stream, tributary which remains dry when it's not monsoon season.
(ii) The big blue patch is a waterbody/lake.

ANSWERS OF EXERCISE 4

(a) (i) Open scrub- A xerophytic vegetation which are found in the semi desert region of less than 100 cm rainfall.
(ii) 180 in G.S. 2799- It is a contour value
(iii) Blue dot in G.S. 2600- It indicates lined perennial well

(b) While travelling from Bhakodar to Bhadli Kotha we come across Open jungle, broken grounds, seasonal streams, cultivable land, trees and silts.

(c) (i) 284986- Permanent hut
(ii) 266018- Lime kiln
(iii) 235964- Temporary hut
(iv) 291956- Temple

(d) Black curve lines are broken grounds. They are formed where the soil gets easily eroded due to floods.

(e) The general direction of the slope is towards South West.

(f) G.S. 2698- Trellis
G.S. 2800- Disappearing

(g) The double black line in G.S. 2403 means the Sluice which helps in controlling the flow of water.

(h) (i) Prominent Surveyed tree- See in symbol chart
(ii) Lined perennial well- ●

(i) The length of the blue line between the two points is 8 cm on the map
Scale given- 2cm = 1km
Therefore, ½ x 8 = 4 kms on the ground

(j) Black dots in Banas river indicates silts and sediments.

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PART V

[Eastings - 30-38 and Northings 94-04]

ANSWERS OF EXERCISE 1

(a) Δ198 indicates Trigonometrical Station and .222 indicates Spot height. Both of them shows height from a particular point but Trigonometrical or Triangulated Height is more accurate than Spot height.

(b) Blue dots in the NW part of the map indicate that the people carry out Agriculture.

(c) (i) Δ307- 307963

(ii) 3r in G.S.3501- Indicates Relative height of the embankment.
(iii) Causeway- A raised masonry road over a small stream but is not a bridge.

(d) The general direction of slope in SW part of the map is towards South.

(e) (i) G.S. 3796- Conical Hill
(ii) G.S. 3697- Ridge

(f) Cultural activity near village Lukho is Annual Fair which is held in the month of February.

(g) (i) Black curve lines indicates broken ground.
(ii) VarkaNadi is flowing towards North West.
(iii) Blue line indicates water channel.

(h) (i) Concave slope- 3796
(ii) Saddle- 3798
(iii) Cliff-3698

(i) Two man made features in G.S. 3401 are Lined perennial well and Chattri.

(j) (i) The number 200 written in black indicates Spot height while the number 200 written in brown indicates Contour value.
(ii) Drainage patterns in G.S. 3796- Radial
G.S. 3399-Trellis

ANSWERS OF EXERCISE 2

(a) Open mixed jungle, Fairly dense jungle, dense jungle and Open scrub.

(b) The length of pack track on the map is 5.2 cms
Scale given 2cms = 1km
Therefore, ½ x 5.2 = 2.6 kms on the ground

(c) Brown lines indicate contour lines
Black lines indicate seasonal streams
Red lines indicates cart track and metalled roads

(d) Dense jungle- 331945

(e) Drainage pattern in G.S. 3295- Trellis

(f) (i) Juvol has scattered settlement
(ii) Juvol is scattered and Ranol is compact.
(iii) Ranol is linked with metalled road to other villages, has a temple and is densely populated.

(g) (i) Ardonadi is flowing towards South
(ii) It is a seasonal stream.

(h) (i) Chattri near Talenagar- 348016
(ii) Surveyed tree near Malpuriya- 357025

(i) The North West part of the map is most cultivated land. The presence of lined perennial well indicates so.

(j) (i) Convex slope
(ii) Concave slope

ANSWERS OF EXERCISE 3

(a) 3701- Steep slope
3096- Ridge
(b) Δ592 in G.S. 3700
(c) 5r in G.S. 3196 indicates Relative depth of the lined perennial well.
(d) Main source of irrigation is lined perennial well.
(e) (i) Compass direction of Dhaneri from Odha is South west.
(ii)The distance along the metalled road from Dhanawada to Ranol on the map is 10.5 cms
Scale given -2cms=1km
Therefore, ½ x10.5 = 5.25 km on the ground
(f) Eastings 32 and 34 = 2 grids and Northing 98 and 00 =2 grids
Each grid = 2 cms = 1 km
Therefore, Eastings- 2 kms and Northings- 2kms
Area= 2 x 2 = 4 km²
(g) Juvol- Scattered settlement
Ranol- Compact settlement
(h) (i) 3495- Dendritic
(ii) 3799- Dendritic
(iii) 3201- Disappearing
(iv) 3700- Radial
(i) (i) Blue line indicates water channel
(ii) It indicates that this region receives seasonal rainfall
(j) (i) Dry Tank- 3400
(ii) Steep Slope- 3700
(iii) Broken ground- 3598

ANSWERS OF EXERCISE 4

(a) Red squares in G.S.3497 indicate Permanent huts.
(b) Metalled road and cart track are used by the people of this region.
(c) The distance between Dhaneri and Marwada on the map is 7.5 cms
Scale given- 2 cm = 1km
Therefore, ½ x 7.5 = 3.75 kms on the ground

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(d) **Different types of jungles- Dense jungle, Open mixed jungle and Fairly dense jungle**

(e) **(i) Green- represents forests/jungles**
(ii) White- Open scrub
(iii) Yellow- Cultivable land
(iv) Blue- Waterbody and water channel

(f) **The streams in the northern part of the map is flowing towards North West.**

(g) **G.S.3300- Temple and Permanent huts are two man made features and Dry tank, streams and trees are the natural features.**

(h) **Δ592- 378007**
.522- 376966

(i) **Length- 8 grids = 16 cms= 8 kms**
Breadth- 10 grids= 20 cms = 10 kms
Area= l x b
Thus, 10 x 8= 80km²

(j) **In G.S. 3295, trees are equally spaced to avoid any spread of fire.**

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PART VI

[Eastings -38-46 and Northings 94-04]

ANSWERS OF EXERCISE 1

(a) **(i) 398952- Δ268**
(ii) 405989- Perennial Covered tank
(iii) 417998-Dry tank
(iv) 451005- spot height .687

(b) **(i) Northern part is covered with forests while the southern part of the map is covered Open scrubs.**
(ii) In the central part of the map, agriculture is dominantly carried out.

(c) **The habitation is sparse due to- 1. It's a highland**
2. It is covered with forests and open scrubs

(d) **Khariya Nadi is flowing towards South East**

(e) **The red arrows means Streams with track in bed**

(f) **The distance on the map between the two points is 6 cms**
Scale given 2cms=1km
Therefore, ½ x 6 = 3 kms on the ground

(g) **Vaghoriya has scattered settlement.**

(h) **People of Khara follows Hinduism religion. The presence of temples.**

(i) Highest point- .687 in G.S. 4500

(j) The black dots indicate silts and sediments.

ANSWERS OF EXERCISE 2

(a) Col- 4295

(b) Seasonal rainfall is experienced by the people of this region.

(c) Different types of jungle- Dense jungle, Fairly dense mixed jungle, dense jungle and Open scrub.

(d) (i) Black curve lines in G.S. 4094 means broken grounds.

(ii) Broken grounds are formed in arid regions where the soil gets easily eroded due to floods.

(e) Karja is situated South west of Khara

(f) (i) 4599- Dendritic

(ii) 4001- Dendritic

(iii) 4295-Radial

(g) (i) Khariya Nadi is flowing towards South East

(ii) The spot height is decreasing from 259 to 228

(h) (i) R.F. means Representative Fraction. It is the ratio between the distance on the map and the corresponding distance on the actual ground.

(ii) R.F. of this map is 1:50,000

(i) Cart track and pack track is used to travel from village Manpuriya to Khara.

(j) (i) Causeway: A raised masonry road over a small stream, but not a bridge.

(ii) Open scrub: A xerophytic vegetation which are found in the semi desert region of less than 100 cm rainfall.

(iii) Spot height: It is represented on the map by a black dot in front of the number like.247, which indicates the height of that particular point above mean sea level.

ANSWERS OF EXERCISE 3

(a) Δ in G.S. 3995 means Trigonometrical Station

(b) (i) Concave slope-4201

(ii) Convex slope- 4294

(iii) Cliff-4499

(iv) Ridge- 4195

(c) 3r in G.S. 4001 means relative height of embankment.

(d) (i) The vast white patch in the southern part of the map is the area of Open scrub.

(ii) Agriculture is the occupation of the people of Vaghoriya..

(e) The arrow in the Banas river shows the direction of the river.

(f) **Temple closer to Manpuriya- 413977**

(g) **Landform in G.S. 4295 is Ridge and in G.S. 4294 is Conical Hill.**

(h) **(i) The number 268 is the Trigonometrical height and the number 285 is the Spot height.**
(ii) Trigonometrical height- It is a represented by a triangle (Δ) beside a number which indicates its height above mean sea level, like Δ268. It is more accurate than Spot height.

(i) **Covered tank and Temple are the man made features and Streams and open scrub are the natural features.**

(j) **The red dash lines indicate pack track.**

ANSWERS OF EXERCISE 4

(a) **NGR means National Grid Reference**

(b) **Dense jungle- 4496**
Fairly dense mixed jungle- 4500
Dense mixed jungle- 4501

(c) **The black dash line in G.S. 4202 is the Demarcated state boundary and the black dotted line in G.S. 4101 is the Tehsil boundary.**

(d) **The blue line in the Banas river indicate water channel.**

(e) **The compass direction of Jasor Hill from Vaghoriya is North East.**

(f) **Three ways of measuring distance on the map- Simple Statement, Representation Fraction and Linear or Graphical scale.**

(g) **Blue circled dots in G.S. 4098 means lined perennial well. It is used for irrigation.**

(h) **Saddle- 4195**
Col- 4295

(i) **(i) The various colours used in the map is to maintain the clarity of the map.**
(ii) Symbol of permanent hut and Temple given in the Conventional symbol chart.

(j) **Red squares are permanent huts and red outline squares indicate temporary huts.**

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PART VII

[Eastings 21-30 and Northings 85-94]

ANSWERS OF EXERCISE 1

(a) **(i) 212894- Prominent Surveyed tree**
(ii) 256908- Temple

- Author- Dr.Quaylee Chakravorty.

(iii) 254904-Cultivable land
(iv) 256898- Chattri

(b) (i) Relative height 10r in southern part of map- 273857
(ii) Δ317- 240876
(iii) Temple near Lodpa- 295915
(iv) Settlement Vaghol- 295888

(c) (i) Aqueduct- An artificial channel usually elevated and built of masonry to carry water.
(ii) Stone quarry- a place where rocks, gravels, stones are cut or broken or blasted for building purposes.
(iii) Causeway- A raised masonry road over a small stream, but is not a bridge.

(d) Black dash lines in G.S. 2385 means it is a disappearing stream.

(e) Canal will be the main source of irrigation in future.

(f) Due to presence of sand dunes, there is no wells in the south of Banas river.

(g) (i) Chief mode of transport is Cart track
(ii) Due to the presence of sand dunes, road construction is not possible.

(h) (i) 'dep' in G.S. 2786 means Depression. They are found in sandy areas.
(ii) It is formed when strong winds blow over a sandy region, it blows away the top of a sand dune leaving a hollow and creates a depression.

(i) Mainpower line means the supply of electricity through these grids.

ANSWERS OF EXERCISE 2

(a) (i) Broken lines indicate broken grounds.
(ii) They are formed in the arid regions where the soil gets easily eroded due to floods.

(b) (i) Agriculture
(ii) Government service
(iii) Stone quarrying

(c) Δ317 - 2487

(d) Vasda is situated on the left bank of Banas river.

(e) Four man made features in G.S. 2892
(i) Permanent huts
(ii) Lined perennial well
(iii) Metalled road
(iv) Temple

(f) Four natural features in G.S.2291
(i) Seasonal streams
(ii) Open scrub
(iii) Trees

(iv) Sand dunes

(g) The distance between Bhakar and Mahadevpura on the map is 10.3 cms
Scale given 2cms = 1km
Therefore, ½ x 10.3 = 5.15 km on the ground

(h) (i) Contour line
(ii) Contour Interval

(i) Sand dunes are found in the southern part of the map.

ANSWERS OF EXERCISE 3

(a) (i) The main river is flowing towards the West.
(ii) The spot height is decreasing from .158 to .148

(b) (i) Agriculture is the main occupation of the people.
(ii) Presence of cultivable land and lined perennial well

(c) The distance between Temple at Sikariya and Temple at G.S. 2590 is 4 cms on the map
Scale given 2cms = 1km
Therefore, ½ x 4 = 2km on the ground

(d) (i) The general slope of the land is towards South west.
(ii) The spot height is decreasing towards South west.

(e) (i) Southern region has radial and disappearing drainage pattern
(ii) This due to highland and presence of sand dunes.

(f) (i) 'Dep' means Depression. They are found in sandy areas.
(ii) They are so many 'dep' in the southern part due to the presence of sand dunes.

(g) (i) This region receives moderate rainfall.
(ii) Presence of sand dunes and seasonal streams.

(h) (i) Conical Hill- 2487
(ii) Radial drainage pattern

(i) Vasda is situated North West of Bhakar

(j) Vaghol has compact settlement pattern and Kheda has scattered settlement pattern.

ANSWERS OF EXERCISE 4

(a) (i) 258862- Temporary hut
(ii) 243931- Covered tank
(iii) 277904-Dry tank
(iv) 263887- Sand dune

(b) (i) Triangulated height Δ168 in the NW corner- 258907

(ii) Chattri at Kheda- 256899
(iii) Temple in the southern part of the map near .178- 263846

(c) (i) Suitable climatic and soil conditions
(ii) It helps in rainfall and fertility of soil

(d) (i) White patch in G.S. 2894 indicate Open scrub
(ii) It is formed due to seasonal rainfall

(e) (i) Cart track is the chief mode of transport because many parts are dominated by sand dunes and metalled road can't be built there.

(f) Scale of this map 2cm = 1km

(g) (i) In kilometres- 9 grids= 9km²
(ii) In metres- 9000 mts

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PART VIII

(Eastings 30-38 and Northings 85-94)

ANSWERS OF EXERCISE 1

(a) Ranavas- 3489

(b) (i) Covered tank near Ramsida- 326895
(ii) Temple at Ranavas- 347898
(iii) Δ192- 306875
(iv) Chattri near Ramsida- 314906

(c) Bearing is 45°

(d) (i) Blue dots indicate lined perennial well
(ii) Occupation is agriculture

(e) The length of unmetalled road on the map is 3.8 cms
Scale given 2cm = 1km
Therefore, ½ x 3.8= 1.9 kms on the ground

(f) (i) Dep means Depression.
(ii) When strong winds blow over a sandy region, it blows away the top of a sand dune leaving a hollow and creates a depression.

(g) Ranavas is a compact settlement and Bhutedi is a scattered settlement.

(h) In G.S. 3590, the number 180 is the contour value and 186 is the Spot height

(i) (i) 'r' in G.S. 3188 means relative height of that particular place.
(ii) Sangla is situated South east of Akedi.
(iii) Drainage pattern in G.S. 3291- Radial

(j) (i) The blue line is the water channel

(ii) The brown patch indicates sand dunes.
(iii) Red line in G.S. 3488 indicates cart track.

ANSWERS OF EXERCISE 2

(a) Luvna is 12.4 km from Bhutedi.
(b) Δ216- 332923
(c) Other two types of scales are Simple Statement and Graphical scale.
(d) In G.S. 3487, Temple and lined perennial well are two man made features and sand dunes and trees are the two natural features.
(e) From Bhutedi to Ranavas, one would come across sand dunes, trees, Open scrub and cultivable land.
(f) Dep in G.S. 3690 means Depression. They are found in sandy areas.
(g) The blue patch on the northern part indicates waterbody (river).
(h) The conventional symbols of the following symbols are given in the conventional symbol chart
(i) The black line is the seasonal stream.
(j) The red dotted line in G.S. 3691 is the pack track.

ANSWERS OF EXERCISE 3

(a) Natural tank near Sangla- G.S.3785
(b) (i) Small green features in G.S. 3091 indicate trees
(ii) Agriculture
(c) Disappearing drainage pattern in G.S.3091
(d) (i) Brown patches in G.S. 3488 indicate sand dunes
(ii) 17r is the relative height of sand dune and red squares are the temporary huts.
(e) Area of the land represented by the map= 8 x 9.5 =76 km²
(f) Scale- It represents the proportion between the distance on the map and the actual distance on the ground.
Scale of the given map is 2cm = 1km
(g) (i) Agriculture is the occupation
(ii) Presence covered tank and lined perennial well.
(h) (i) The brown lines in G.S. 3291 means contour lines.
(ii) The value of the line is 180
(i) (i) Drainage pattern around Ramsida- Disappearing pattern
(ii) Black dotted patch in G.S. 3387 is dry tank
(iii) G.S. 3591- Scattered settlement
G.S. 3592- Compact settlement

(j) The symbol ▪ indicate dry tank.

ANSWERS OF EXERCISE 4

(a) (i) 9r in G.S. 3789 means relative height of sand dunes
(ii) Highest peak is Δ233 in G.S. 3485
(b) (i) The black dots in the Banasriver indicates silts and sediments.
(ii) Blue line in the river indicate water channel.
(c) (i) Temple situated at Sangla- 373862
(ii) Chattri at Badarpura- 344857
(iii) Covered tank near Ramsida- 326895
(iv) Surveyed tree in G.S. 3787- 379877
(d) Villages are Motibhatamal, Akedi and Badarpura.
(e) Area receives seasonal rainfall-Lined perennial well, seasonal streams and covered tanks.
(f) Δ216 is more accurate height than .216
(g) (i) Sangla from MotiBhatawal- South east
(ii) Badarpura from Akedi- South
(iii) Ranavas from Sangla- North West
(h) (i) Black dots in G.S. 3685 indicate Tehsil boundary
(ii) In G.S. 3590, Dep means Depression. It is found in sandy areas.

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PART IX

[Eastings 38-46 and Northings 85-94]

ANSWERS OF EXERCISE 1

(a) Settlement Arniwada- 392924
(b) (i) Balram Nadi is flowing towards North West.
(ii) Left bank of Banas river
(c) The length of the railway line on the map is 9 cms
Scale given 2cms = 1km
Therefore, ½ x 9 = 4.5 kms and 4500 metres on the ground
(d) (i) Chitrasani is the most important settlement.
(ii) Advantages- Railway station, National Highway [NH14], Post office
(e) The brown dots indicate sand dunes. They are formed in sandy regions due to strong winds.
(f) The number 271 in G.S.4187 indicate Spot height.
(g) Drainage pattern in G.S. 4086 is Radial and in G.S. 4087 is Disappearing.

(h) **Causeway in G.S. 4188 means a raised masonry road over a small stream, but it is not a bridge.**

(i) **(i) BM- Bench Mark**
(ii) RS- Railway station
(iii) NH14- National Highway 14
(iv) 9r Relative height or depth of a place

(j) **Landform in G.S. 3985 is Ridge**

ANSWERS OF EXERCISE 2

(a) **In G.S. 4285 Temple and Metalled road are the two manmade features and Sand dunes and dry tank are the two natural features.**

(b) **In G.S. 3989, the streams do not join the river due to the presence of sand dunes.**

(c) **(i) Metalled-**
(ii) Railway line-
(iii) Cart track-
Draw the symbols from the Conventional symbol chart

(d) **RS- 447858**

(e) **(i) In G.S. 3986 and G.S. 4491, the numbers 220 and 200 indicate Contour value.**
(ii) 20 metres
(iii) Yes, the difference remains constant throughout the map.

(f) **(i) Chitrasani has communication facility.**
(ii) Presence of Post Office.

(g) **(i) Δ364 in G.S. 4086- Trigonometrical station or Triangulated height**
(ii) .269 in G.S.3985- Spot height
(iii) 10r in G.S. 4186- Relative height of Sand dune
(iv) Dep in G.S. 3990- Depression found in sandy regions

(h) **Compass direction of Temple (4285) from Chattri (4185) is South East**

(i) **Western railway Zone**

(j) **(i) The broken lines indicate broken grounds.**
(ii) They are formed in arid regions where the soil gets easily eroded due to floods.

ANSWERS OF EXERCISE 3

(a) **Temple at Pirojpura- 424869**

(b) **BM 225.3 in G.S. 4485 indicates Bench Mark. It means that the surveyors make a permanent cut or mark on a rock, stone, prominent building or place to indicate the height of that place.**

(c) **Metalled roads, Railways and Cart track are the modes of transport used by the people of this region.**

(d) **The distance along the cart track between Karja and Raampura on the map is 4cms**
Scale given – 2cms = 1km
Therefore, ½ x4 = 2 kms on the ground.

(e) **Four man made features in G.S. 4586-**
1. Railway line
2. Permanent huts
3. Lined perennial wells
4. Main power line

(f) **The economic activity of the people of Antroli is Agriculture. The large number of blue dots indicates lined perennial well which is used for irrigation.**

(g) **Landforms in G.S. 4287- Ridge and G.S. 4492- Knolls**

(h) **16r in G.S. 3887 means the height of the sand dune.**

(i) **(i) The white patches indicate Island.**
(ii) They are formed due to less rainfall.

(j) **(i) Scale- A scale represents the proportion between the distance on the map and the actual distance on the ground. There are three types of scales- Simple statement, Representative Fraction and Graphical or Linear scale.**
(ii) Causeway- A raised masonry road over a small stream, but is not a bridge.
(iii) Dep.- means Depression. They are found sandy regions.
(iv) Open scrub- It is a xerophytic vegetation which are found in the semi desert region of less than 100 cm rainfall.

ANSWERS OF EXERCISE 4

(a) **Saddle- G.S. 3985**

(b) **The distance between Pirojpura and Chitrasani Railway Station is 5 cms on the map**
Scale given- 2cms = 1 km
Therefore, ½ x 5= 2.5 kms on the ground.

(c) **The general land use pattern of this area is cultivation. The presence of large number of lined perennial wells indicates.**

(d) **The blue circles in G.S. 4386 and 3988 indicate Lined perennial wells. They are used for irrigation and domestic purposes.**

(e) **(i) Confluence of Banas river and Balram Nadi- G.S.422928**
(ii) The black curve lines in G.S. 4191 indicate broken grounds. They are formed in arid region where the soil gets easily eroded due to floods.

(f) **This region receives rainfall from June to September.**

(g) **(i) R.F. indicates Representative Fraction. It is the ratio between the distance on the map and the corresponding distance on the actual ground. It is represented in fraction, 1:50,000.**

(ii) 5cm =1km

R.F. = MD [Map Distance]
GD [Ground Distance]

Therefore, 5cm / 1km = 5 / 100,000 = 1 / 20,000 = 1:20,000

(h) 336 in G.S. 4385 indicates milestone of NH14.

(i) Open scrub is found in this region due to seasonal rainfall.

(j) Spot height- It is represented on the map by a black dot in front of the number like.249 which indicates the height of that particular point above mean sea level.
Relative height- It is represented by a small 'r' written along with anumber like 22r. It indicates the relative height or depth of a particular point from the surrounding surface and not from the mean sea level. It is indicated beside a well, tank, embankment, sand dune, bank of a river, etc.

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