

Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Senior Secondary School Examination, 2026 (XIIth)
SUBJECT NAME: - GEOSPATIAL TECHNOLOGY (Q.P. CODE 818/342)

General Instructions: -

1	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
2	“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. Its leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in Newspaper/Website, etc. may invite action under various rules of the Board and IPC.”
3	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In Class-XII, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.
4	The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
5	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
6	Evaluators will mark (✓) wherever answer is correct. For wrong answer CROSS 'X' be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. This is most common mistake which evaluators are committing.
7	If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then be totalled up and written in the left hand margin and encircled. This may be followed strictly.
8	If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.

9	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note " Extra Question "
10	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
11	A full scale of marks _____ (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
12	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.
13	Ensure that you do not make the following common types of errors committed by the Examiner in the past :- • Leaving answer or part thereof unassessed in an answer book. • Giving more marks for an answer than assigned to it. • Wrong totalling or marks awarded on an answer. • Wrong transfer of marks from the inside pages of the answer book to the title page. • Wrong question wise totalling on the title page. • Wrong totalling of marks of the two columns on the title page. • Wrong grand total. • Marks in words and figures not tallying/not same. • Wrong transfer of marks from the answer book to online award list. • Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.) • Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
14	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.
15	Any unassessed portion, non-carrying over of marks to the title page, or totalling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also as the Board. Hence, in order to upload the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
16	The Examiners should acquaint themselves with the guidelines given in the " Guidelines for Spot Evaluation " before starting the actual evaluation.
17	Every examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totalled and written in figures and words.
18	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

MARKING SCHEME
Geospatial Technology (Subject Code - 818)
(PAPER CODE: 342) (P3420818)

Q.No.	EXPECTED OUTCOMES/VALUE POINTS		Marks
	SECTION – A		
	Answer any 4 out of given 6 questions on Employability Skills		4x1=4
1.	(i) (B) A group of words that communicates a complete thought or meaning. (ii) Stress is a state of feeling upset, annoyed and hopeless. (iii) (A) Suspicious (iv) (B) Information and Communication Technology (v) (D) Workarea (vi) ‘Start up India’	(U-1 pg-9) (U-2 pg 26) (U-2 pg 34) (U-3 pg 39) (U-3 pg 42) (U-4 Pg 89)	1 1 1 1 1 1
	Answer any 5 out of given 7 questions.		5x1=5
2.	(i) (C) Sunlight as the energy source (ii) (B) size of the area on ground covered by a pixel (iii) (B) Polar orbit (iv) (D) Microwave radar (v) (C) Crop monitoring (vi) (D) Laser-based active sensor (vii) (A) Location of rivers	(pg.no. 1 Rs) (pg.no.14Rs) (pg.no.17Rs) (pg.no.42Rs) (pg.no.47Rs) (pg.no.46Rs) (pg.no.58GIS)	1 1 1 1 1 1 1
	Answer any 6 out of given 7 questions		6x1=6
3.	(i) (C) An area feature (ii) (D) Integrate multiple map layers (iii) (A) Space exploration (iv) (A) 60 zones (v) (B) Network analysis (vi) (C) Monitoring and managing satellites (vii) (D) Satellites	(pg.no.63GIS) (pg.no.79GIS) (pg.no.90GIS) (pg.no.88GIS) (pg.no.71GIS) (pg.no.104GPS) (pg.no.102GPS)	1 1 1 1 1 1 1
	Answer any 5 out of given 6 questions.		5x1=5
4.	(i) (C) 20,200 km (ii) (D) Ionospheric delay (iii) (C) Stack of spectral band images (iv) (A) GIS across an entire organisation (v) (A) Photogrammetry (vi) (D) Geomatics	(pg.no.104)(GPS) (pg.no.106)(GPS) (pg.no.129)(Trends) (pg.no.134)(Trends) (pg.no.130) (Trends in Rs) (pg.no.145Application)	1 1 1 1 1 1 1
	Answer any 5 out of given 6 questions		5x1=5
5.	(i) Image classification (ii) Histogram equalisation (iii) TIN (iv) Digitisation (v) Trilateration (vi) 3D GIS	(pg. no. 27 Rs) (pg. no. 20 Rs) (pg. no. 84 GIS) (pg. no. 60 GIS) (pg. no. 105 GPS) (pg.no.137 Trends in GIS)	1 1 1 1 1 1

	Answer any 5 out of given 6 questions		5x1=5
6.	(i) Jalore (ii) 5 m resolution is better as it captures finer details like roads, buildings, which are essential in urban planning. (iii) It indicates which geographic features are adjacent to others. (iv) Four satellites (v) During field survey in disaster zones on remote areas (vi) Cost reduction	(pg.no.150Application) (pg. no. 15 Rs) (pg. no. 64 GIS) (pg. no. 105 GPS) (pg. no. 136 Trends) (pg.no.151Application)	1 1 1 1 1 1
	SECTION - B		
	Answer any 3 out of given 5 questions on Employability Skills. Answer each questions in 20-30 words.		3x2=6
7.	Communication is a two way process through which information or message is exchanged between individuals using language, symbols, signs or behaviour. Speaking, listening, reading and writing are the parts of communication.	U-1, pg-1	2
8.	1. Openness - Individuals are creative, curious, active, flexible and adventurous. 2. Consciousness - Self disciplined, work on time, take care of others 3. Extraversion - love to interact with people 4. Agreeableness - kind, sympathetic, cooperative, considerate and warm 5. Neuroticism - tendency towards anxiety, self doubt, depression, shyness. (Any four)	U-2, pg-33	(0.5x4) Any four
9.	1. Sorting Data in IT refers to the process of arranging data elements in a specific order such as ascending or descending based on pre-defined criterion. 2. It helps in data organization, making it easier to search, analyze and process information efficiently.	U-3, pg-58	(1x2)
10.	Environmental Barriers : 1. Lack of adequate resources or raw material 2. Non-availability of skilled labour 3. Lack of requisite machinery and infrastructure 4. Unavailability of monetary resources on time (Any two)	U-4, pg-92	1+1=2
11.	According to UNEP - United Nations Environment Program, green jobs or green collar jobs are works in agricultural, administrative, research and development, manufacturing and service activities that contribute	U-5, pg-112	2

	substantially to preserving or restoring environment quality.		
	Answer any 3 out of the given 5 questions in 20-30 words each.		3x2=6
12.	Repetitive cycle-capability of a satellite to record the same area at the same viewing angle at different periods of time. To constant monitor the affected areas, rescue operation and taking decisions.	(pg. no. 17 Rs)	1+1=2
13.	Depth, suspended particles, floating vegetation, sun angle.	(pg. no. 11 Rs)	¼x4=2
14.	Node-Beginning and end point of a line, intersection point of two lines. Arc (line) -series of points that start and end at a node.	(pg. no. 63 GIS)	1+1=2
15.	Tracking-base station monitors vehicle and track its location, Navigation-driver uses GPS for routing, step by step directions for routes.	(pg. no. 110 GPS)	1+1=2
16.	It allows data from different software to be integrated, encouraging research, planning and global-scale analysis. (Other relevant points related to the development of Geospatial can be considered)	(pg. no. 138 Trends)	2
	Answer any 2 out of the given 3 questions in 30-50 words each.		2x3=6
17.	Texture-relates to surface roughness and tonal variation. Smooth surfaces have little tonal variation and rough surfaces show spotted tone with abrupt changes closely associated with tone. Eg. Forests, rock outcrops, plains Pattern : Spatial arrangement of separate objects orderly repetition of similar tone and textures. Helps identify man-made Vs. natural objects. Eg. Urban streets, orchards with evenly spaced trees.	(pg. no. 34-35 Rs)	1½+1½=3
18.	Data capture, storage, manipulation, analysis and presentation. Explain any two.	(pg. no. 60 GIS)	1+2=3
19.	NAVSTAR - US based GNSS, developed by DOD, 6	(pg. no. 114 GPS)	1+2=3

	orbits, 24 working satellites, 20, 200 km altitude. (Any 2 given features, any other relevant point can also be considered)		
	Answer any 3 out of the given 5 questions in 50-80 words each.		3x4=12
20.	Radar-Radio detection and ranging-uses microwaves, used in all weather conditions. LiDAR-Light detection and ranging uses laser used for topography and 3D mapping. Explain the application and types with diagram (weightage should be given to answers supported with examples and diagrams)	(pg. no. 44-46 Rs)	2+2=4
21.	Geographic : Uses latitude-longitude-3D reference system unit of measure is decimal degrees show in positive and negative for M and S hemisphere projected. Projected : Flat xy plane with units in meters/feet origin at the conjunction of equator and prime meridian. Base of UTM. (weightage should be given to answer supported with examples and diagrams)	(pg. no. 87-89 GIS)	2+2=4
22.	Buffer-spatial analysis tool used to identify areas surrounding geographic features on impact/service area of events/service provider. Point-circular Line-inolated ships Polygon-inward or outward zones Explain with examples and diagrams.	(pg. no. 83 GIS)	1+3
23.	Advance remote sensing technique which collects data across narrow bands of the EMR spectrum, 200 or more bands, no need for prior knowledge, offers detailed classification. Explain in detail. (used for Geophysics, surveillance and strategic decisions) (diagram can be given)	(pg. no. 41-42 Rs)	1+3
24.	Flood hazard mapping using GIS involves collecting data on elevation, rainfall, drainage and population with the help of topographic maps, census data and satellite images. AHP is used to assign weights to those factors to	(pg. no. 147-149 Application-flood studies)	1+3=4

	generate hazard maps. These maps help in assessing flood-prone zones and planning mitigation. Explain the Kosi river case study with flow chart. (students can give flow chart of the factors of flood hazard mapping)		
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