

GANPAT UNIVERSITY
M.Sc. Second Semester Examination May, 2014
Subject: Geophysics
Paper: GPA 201 APG Applied Geology

Time: 3 hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each section, of which question No. 4 and 8 are compulsory
 - 2) Answer each section in separate answer book.
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SECTION: I

Q-1	(a) Explain Convection Currents Theory?	07
	(b) Explain terms Aquifer and Aqitard. And also explain groundwater occurrences in Sedimentary Rocks.	07
Q-2	(a) Explain types, kinds and uses of Aluminum Ore.	07
	(b) Explain origin of Oil and Gas. Also explain term Source Rock.	07
Q-3	(a) Explain Seismic Method and Magnetic Method used in Mining method.	07
	(b) Explain Indian occurrences and uses of Iron Ore.	07
Q-4	(1) What is Plate Tectonics?	01
	(2) Give the types of Coal.	01
	(3) What is Engineering Geology?	01
	(4) What is Trap Rock?	01
	(5) Name the category of Indian Basin	01
	(6) Name the Plate Margin.	01
	(7) What is Migration?	01

SECTION: II

Q-5	(a) Discuss causes, origin and types Earthquake.	07
	(b) Explain petroleum geology of Cambay Basin.	07
Q-6	(a) Describe the geology and tectonics of Saurashtra.	07
	(b) Describe distribution of Volcano.	07
Q-7	(a) Discuss Vindhyan System.	07
	(b) Explain petroleum geology of Cavery Basin.	07
Q-8	(1) Name the types of Volcano.	01
	(2) Name the important oil field of Assam Basin.	01
	(3) State the nature of Krishna- Godavari oil field.	01
	(4) Give the classification of Paleozoic.	01
	(5) Which are the source rock, trap rock and reservoir rock in Bombay Basin?	01
	(6) Describe the rocks found in Kutch Region.	01
	(7) Name the types of seismic waves with their relative velocities.	01

-----END OF PAPER-----

GANPAT UNIVERSITY
M.Sc. Second Semester Examination May, 2014
Subject: Geophysics
Paper: GPA 202 GMM Gravity and Magnetic Methods

Time: 3 hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each section, of which question No. 4 and 8 are compulsory
 - 2) Answer each section in separate answer book.
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SECTION: I

- Q-1 (a) Differentiate between gravity and magnetic methods? What are the physical properties used in these methods? 07
(b) Explain Dia, Para and Fero magnetism of the geological rocks. 07
- Q-2 (a) What are stable and unstable gravity methods? Explain the working principle of warden gravity meter. 07
(b) Explain the principle of proton procession magnetometer. 07
- Q-3 (a) What are the different correction involved in processing of field gravity data explain them? 07
(b) Define the concept of Geoid and Spheroid. 07
- Q-4 (1) What is Magnetic field at pole? 01
(2) How many types of gravity survey? 01
(3) Gravity and Magnetic methods are passive geophysical methods, justify it? 01
(4) What is unit of susceptibility? 01
(5) Terrain correction is always positive, explain why? 01
(6) How calibration of gravity meter is done? 01
(7) What is the order of magnetism in Igneous, Sedimentary and Metamorphic rocks? 01

SECTION: II

- Q-5 (a) How many gravity survey are done on land why setting up of a base station is required? 07
(b) Explain why elevation correction and bouger correction is always opposite in sign. 07
- Q-6 (a) Write a short note on plan of ground magnetic survey and its correction applied. 07
(b) Explain airborne magnetic surveys and magnetic gradient survey. 07
- Q-7 (a) How regional and residual anomalies are separated from Bouger anomaly. Explain graphic method of separation. 07
(b) Write a short note on the application of gravity and magnetic in oil and mineral exploration. 07
- Q-8 (1) What is drift correction in gravity survey? 01
(2) What is the line spacing in aeromagnetic regional survey? 01
(3) What is CEC in gravity? 01
(4) Can magnetic survey be done for nonmetallic conductor? 01
(5) What is ambiguity in gravity interpretation? 01
(6) What are the applications of magnetic gradient survey? 01
(7) What are gravity anomalies? 01

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GANPAT UNIVERSITY
M. Sc. **Second** Semester Examination May, 2014
Subject: Geophysics
Paper: GPA 203 Electrical Methods

Time: 3 hours

Total Marks: 70

Instructions:

1. Attempt any three questions from each section, of which question No. 4 and 8 are compulsory.
2. Answer each section in separate answer book.

SECTION: I

Q-1	(a) Explain the current and potential lines distribution over homogeneous, conductive and resistive earth layers ? (b) Write short note on the mechanism of resistivity surveys and discuss the significance of porous non polarizable potential electrodes?	14
Q-2	(a) What are the different electrodes arrangements in electrical surveys? Write the configurational constants for each arrangement? (b) What are the different curves obtained in VES survey, assuming a three layers earth model?	14
Q-3	(a) Discuss the problem of equivalence in resistivity surveys? (b) What is resistivity anisotropy? Is it the ratio of $\rho_{//}$ (resistivity parallel) to ρ_{\perp} (resistivity transverse)? Write the formula for anisotropy	14
Q-4	(a) What is the condition used in Schlumberger array for planting the electrodes on ground? (b) Why resistivity survey is preferred for locating ground water horizon? (c) Does the resistivity decrease with porosity? (d) How dipole-dipole arrangement is different from Wenner arrangement? (e) Which type of curve is suitable for civil engineers? (f) For electrical trenching, which electrodes arrangement is preferred worldwide? (g) Which technique is used to map the subsurface layer thickness?	7

SECTION: II

Q-5	(a) Write short note on the mechanism of self potential. (b) What is the physical property measured in I.P. survey. Mention its units also. What is the nature of decay curve in I.P. surveys?	14
Q-6	(a) Describe frequency domain measurement of I.P. surveys. (b) Write short note on telluric current method.	14
Q-7	(a) Differentiate the potential drop ratio method from equipotential line method in electrical surveys. (b) Write brief note on application of electrical method.	14
Q-8	(a) Which geophysical instrument is used in measurement of self potential? (b) Name the instruments used for time domain induced polarization. (c) Differentiate time domain & frequency domain measurement of I.P. surveys. (d) What are telluric current methods? (e) What is the source of telluric current? (f) Does a graphite body produce S.P. anomaly? (g) Which electrical method is used for Base metal exploration?	7

' End of Paper '

GANPAT UNIVERSITY
M.Sc. Second Semester Examination (C.B.C.S) April-May 2014
Subject: Geophysics
GPA 204 NCP - Numerical Methods and Computer Programming

Time: 3 hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each section, of which question No. 4 and 8 are compulsory
 - 2) Answer each section in separate answer book.
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SECTION: I

- Q-1 Answer the following. (14)**
- (A) Explain various storage media in detail.
 - (B) What is conditional statement? Explain by example.
- Q-2 Answer the following. (14)**
- (A) Explain different Data types of language C with example.
 - (B) What is Algorithm? Explain it by example.
- Q-3 Answer the following. (14)**
- (A) Explain the variables of FORTRAN with example.
 - (B) What is LINUX? Explain any five LINUX commands with example.
- Q-4 Do as directed. (07)**
- (A) C language was developed by?
 - (B) Which command is used to print a file in LINUX?
 - (C) Kernel is known as core of operating system. True / False
 - (D) Printer is Input device or Output device?
 - (E) RAM stands for :
 - (F) CPU stands for :
 - (G) XP is System software or Application software?

SECTION: II

- Q-5 Answer the following. (14)**
(A) Explain Pointer with example.
(B) What is Operator overloading? Explain with example.
- Q-6 Answer the following. (14)**
(A) Evaluate $\int_0^1 \frac{1}{1+x} dx$ correct up to four decimal places by using Simpson's rules with $h = 0.5, 0.25$ and 0.125 .
(B) (b) Solve the following system by using Gauss-Jordan Method.
 $2x + y + z = 10$
 $3x + 2y + 3z = 18$
 $x + 4y + 9z = 16$
- Q-7 Answer the following. (14)**
(A) Find a root of the following equations by using Newton-Raphson method
(i) $x \sin x + \cos x = 0$ (ii) $x = e^{-x}$.
(B) State the Taylor series of $y(x)$ and hence find $y(0.1)$ correct up to four decimal places if $y(x)$ satisfies $y' = x - y^2$ and $y(0) = 1$.
- Q-8 Do as directed. (07)**
(A) State trapezoidal rule.
(B) State Simpson's $\frac{1}{3}$ rule.
(C) State Simpson's $\frac{3}{8}$ rule.
(D) Define the correlation coefficient (cc).
(E) Define the ordinary differential equation with an example
(F) Define mathematical expectation.
(G) Define the system of linear equation.

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GANPAT UNIVERSITY
M. Sc. **Second Semester Examination (C.B.C.S) April-May 2014**
Subject: **Biotechnology/Microbiology/Geophysics**
BTB/MBB/GPB205LCS: Language and Communication Skills-II

Time: 3 hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each section, of which question No. 4 and 8 are compulsory
 - 2) Answer each section in separate answer book.
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SECTION: I

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|-----|---|----|
| Q-1 | Discuss essentials of Preparing Text of Presentation. | 14 |
| Q-2 | Attempt the following: (Any Two)
a. Discuss Characteristics of successful Group Discussion
b. Give Differences between Group Discussion and Debate
c. Discuss 'Creating Friendly Cooperative Atmosphere' and 'Handling Conflict' as Group Discussion Strategies. | 14 |
| Q-3 | Attempt the following: (Any Two)
a. Discuss different answering strategies useful at the time of interview.
b. Discuss types of interview questions.
c. Discuss impact of 'core interview' over 'decision making interview'. | 14 |
| Q-4 | Answer the following in short:
a. List out different answering strategies.
b. List out characteristics of successful job interview.
c. List out different pre-interview preparation techniques.
d. List out types of interview.
e. Give full form of AIDA.
f. List out essential documents to be added in interview file.
g. Define the term 'Debate' in your own words. | 07 |

SECTION: II

- Q-5 Write Notice, Agenda and Minutes for the meeting organized in your college for tour planning. 14
- Q-6 Write an application for the post of assistant professor in Sunrise Institute of Sciences in B. Sc. Programme. 14
- Q-7 Attempt the following: (Any Two) 14
- Discuss types of technical articles in detail.
 - Write an individual report on inspection conducted in your institute.
 - Write a note on 'Technical Section' and 'Management Section' of a technical proposal.
- Q-8 Answer the following in short: 07
- List out different routine reports.
 - List out sales aspects of an application letter.
 - In which order experience should be written in resume?
 - What should be the maximum length of title of a technical proposal?
 - List out different blocks of a job application
 - List out different sections of a technical proposal.
 - Define 'Terms of References' in the light of report writing style.

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