



17583

16117

2 Hours / 50 Marks

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
 - (2) *Answer **each** next main question on a **new** page.*
 - (3) *Illustrate your answers with neat sketches **wherever** necessary.*
 - (4) *Figures to the **right** indicate **full** marks.*
 - (5) *Assume suitable data, if **necessary**.*
 - (6) *Use of Non-programmable Electronic Pocket Calculator is **permissible**.*
 - (7) *Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.*

Marks

1. Attempt **any seven** :

14

- a) Define Watershed. Draw sketch.
- b) State the four problems of watershed management.
- c) State prospects of watershed management.
- d) What is the aim of soil and water conservation in agriculture ?
- e) List the geomorphological characteristics of watershed.
- f) Classify the crops on the basis of soil conservation value.
- g) Define mulching and crop rotation.
- h) Draw the drainage network in a typical watershed.
- i) State the role of peoples participation in watershed management.
- j) Define water budget.

2. Solve **any four** :

12

- a) State the principles and objectives of watershed management.
- b) What are causes of watershed detonation ?
- c) List the hydraulic data required for planning of watershed development.
- d) Define Land capability. Also classify the land use capability.
- e) Explain any three factors affecting the runoff from a watershed.
- f) Write the factors influencing the soil conservation.

P.T.O.



3. Attempt **any four** of the following : 12

- a) Calculate the yield from a watershed having area 1500 hect. Take annual average rainfall 700 mm.
- b) Draw a neat layout of a diversion headwork. Show names to component parts of it.
- c) Describe hydraulic design steps of an earthen embankment.
- d) Compare between contour farming and strip cropping on any four points.
- e) List the six different materials used for mulching.
- f) Explain the role of grasses in soil conservation.

4. Solve **any four** : 12

- a) Explain the method of estimation sediment yield from watershed.
 - b) State the principles and techniques of water harvesting.
 - c) Write the steps involved in the planning formulation of watershed management.
 - d) Explain any two methods of artificial recharge of streamwater with the help of neat sketch.
 - e) What is the effect of cropping system on land management and cultural practices ?
 - f) Explain the importance of cost benefit analysis of watershed.
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