

# API Documentation – AI Question Paper Generator

## Base URL

http://localhost:8000

## POST /generate-paper

Generate a question paper with specified topics, difficulty, and types.

### Request Body

```
{
  "subject": "Biology",
  "grade": "10",
  "topics": ["Photosynthesis", "Respiration", "DNA Structure"],
  "difficulty_distribution": {
    "Easy": 2,
    "Medium": 2,
    "Hard": 1
  },
  "question_types": ["MCQ", "Short Answer", "Long Answer"]
}
```

### Response

```
{
  "status": "success",
  "message": "Question paper generated successfully",
  "body": {
    "paper": {
      "Question 1": "MCQ: What is the byproduct of photosynthesis that is released into the atmosphere? A) Oxygen B) Carbon dioxide C) Glucose D) Water",
      "Question 2": "What is the byproduct of aerobic respiration that is expelled out of the body through exhalation?",
      "Question 3": "Explain the double helix model of DNA, highlighting the role of hydrogen bonds, sugar-phosphate backbone, and nitrogenous bases in its structure.",
      "Question 4": "MCQ: During photosynthesis, light energy is absorbed by A) Chlorophyll B) Stomata C) Xylem D) Phloem",
    }
  }
}
```

```
      "Question 5": "What is the primary difference between aerobic and anaerobic respiration in terms of ATP production and oxygen requirement?"
    },
    "download_links": {
      "pdf": "/download/pdf/20250714184949",
      "word": "/download/word/20250714184949"
    }
  }
}
```

---

**GET** /download/pdf/{timestamp}

Download the generated question paper as a PDF.

**Example**

```
/download/pdf/20250714122100
```

---

**GET** /download/word/{timestamp}

Download the generated question paper as a Word document.

**Example**

```
/download/word/20250714122100
```

**GET** /subjects

Fetches available subjects in the knowledge base.

**Response**

```
{
  "status": "success",
  "message": "Subjects fetched successfully.",
  "body": {
    "subjects": ["Biology", "Math", "English"]
  }
}
```

---

**GET** `/topics?subject=Biology&grade=10`

Returns available topics for a given subject and grade.

### Response

```
{
  "status": "success",
  "message": "Topics fetched successfully.",
  "body": {
    "topics": ["Photosynthesis", "Respiration", "DNA Structure"]
  }
}
```

---

**GET** `/clear-cache`

Clears Redis cache of cached and previously used questions.

### Response

```
{
  "status": "success",
  "message": "All cached questions cleared.",
  "body": {}
}
```

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## Testing

You can test these APIs using:

- Swagger UI: `http://localhost:8000/docs`
- Postman

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## Notes

- Authentication is not yet implemented.
  - CORS is enabled for development. You may restrict it in production.
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## Status Codes

Code	Meaning
200	Success
400	Bad Request / Validation
404	File not found
500	Server/internal error

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